BOAT CREW
Qualification Guide

Vol. I – Boat Crew Member

COMDTINST M16114.10B

"Train, Maintain, Operate"

U.S. Department
of Transportation

United States
Coast Guard

U.S. Department of Transportation
United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street, S.W.
Washington, DC 20593-0001
Staff Symbol: G-OCS-2
Phone: (202) 267-2868

AUG 2 9 2002

COMDTINST M161 14.10B

COMMANDANT INSTRUCTION M 16 114.1 OB

Subj: BOAT CREW QUALIFICATION GUIDE, VOLUME I - CREW MEMBER

1. PURPOSE. This Manual provides updated standardized performance objectives and guidance for the purpose of training and certifying personnel as crew members on Coast Guard boats.

2. ACTION. Area, district, activities, section and group commanders, and commanding officers/officers-in-charge of all units with boats assigned shall comply with this Manual in the training and certification of boat crew members. Waivers of specific requirements will not normally be granted. Internet release authorized.

3. DIRECTIVES AFFECTED. Boat Crew Qualification Guide, Volume I - Crew Member, COMDTINST M16114.10A is canceled.

4. DISCUSSION. The Coast Guard's boat crew training remains a performance based training program. The qualification tasks within this Crew Member Qualification Guide relate to knowledge and skills necessary to meet the challenges of a boat crew member. Major changes to this edition include:

   a. Revised format including standardized Chapter and Section layout.

   b. Addition and rewording of various tasks.

   c. Addition of Chapters 4 and 5 to cover Aids to Navigation Crew Members.

   d. Addition of a list of acronyms as Appendix B.

   e. Addition of an Index Word List.

DISTRIBUTION - SDL No.139

	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	
A	2	2	2		2	2	1	2	1	1		1	2	1	1	1	1		1		2					
B		8	2		1	1	1	1		1				100	1											
C	1	1		2	1				20		2			2		5							5			2
D	2	1		2				50					2													
E	5		1											1					10	1						
F																										
G			60	1	10																					
H																										

NON-STANDARD DISTRIBUTION: Cx: NESU Boston: 1 copy; Dm: PACAREATRATEAM: 10 Copies

f. Changed all NOTES, CAUTIONS, and WARNINGS to be consistent throughout.

5. PROCEDURES. Personnel assigned to a unit with boats and who are already certified for a boat crew position need not re-certify utilizing this Manual. Procedures for newly certifying members, currency maintenance, and re-certification due to permanent change of station transfer or lapse of certification will be found in this Manual. Any questions should be resolved through discussion with Commandant (G-OCS-1).

6. POLLUTION PREVENTION (P2) CONSIDERATIONS. Pollution Prevention considerations were examined in the development of this directive and have been determined not to be applicable.

D. S. BELZ
Assistant Commandant for Operations

RECORD OF CHANGES

CHANGE NUMBER	DATE OF CHANGE	DATE ENTERED	ENTERED BY

Table of Contents

Chapter 1
Introduction

Introduction

The Boat Crew Qualification Guides are an integral part of the boat crew qualification and certification process. Each volume contains a collection of tasks which must be learned, practiced, and performed by the trainee. These tasks represent the minimum elements of skill and knowledge necessary for safe and effective performance of a Coast Guard boat crew member.

In this chapter

This chapter contains the following sections:

Section A. Steps in the Qualification and Certification Process

Introduction

This section will explain the qualification/certification system requirements and procedures that the trainee should understand before completing specific tasks.

A.1. Designation to the training program

The trainee is designated to the training program by the unit command.

A.2. Assignment of primary instructor

An experienced and certified petty officer is assigned as the trainee's primary instructor.

A.3. Completion of appropriate qualification guide

The trainee completes the appropriate qualification guide. To accomplish this, he/she must follow the procedure below:

Step	Procedure
1	Trainee is assigned task.
2	Trainee completes reading assignment.
3	Task is demonstrated to trainee.
4	Trainee is walked through task.
5	Trainee practices task.
6	Trainee demonstrates proficiency at least to task standards.
7	Task is signed off.

A.4. Certification process

Upon completion of the qualification process, the trainee completes the certification process as outlined in the steps below:

Step	Procedure
1	Boat Crew Examination Board interviews trainee.
2	Trainee completes a comprehensive check-ride.
3	Boat Crew Examination Board issues recommendation to the command.
4	Command certifies trainee.

NOTE

For a complete discussion of the qualification/certification process, refer to *Boat Crew Training Manual*, COMDTINST M16114.9 (series).

Section B. Description of the Manual

Introduction

There are five *Boat Crew Qualification Guides*. They are:

- *Volume I* - *Boat Crew Member*
- *Volume II* - *Coxswain*
- *Volume III* - *Engineer*
- *Volume IV* - *Heavy Weather Coxswain*
- *Volume V* - *Surfman*

Each volume is made up of three major chapters:

- *Chapter 1* - *Introduction*
- *Chapter 2* - *Qualification Tasks*
- *Chapter 3* - *Trainee Study Guide*

In this particular volume, two additional chapters are included to address qualification of aids to navigation (AtoN) Crew Members. They are:

- *Chapter 4* - *AtoN Crew Member Qualification Tasks*
- *Chapter 5* - *AtoN Crew Member Trainee Study Guide*

Chapter 1 consists of:

- Explanations of the qualification/certification system
- Descriptions of the qualification manuals
- Guidance concerning the responsibility of the instructor and the trainee while using the qualification guides

Chapter 2 is made up of the qualification tasks, which are designed to measure the trainee's progress.

Chapter 3 provides guidance for the trainee's reading assignments and is to be removed and retained by the trainee.

In this section

This section contains the following two parts.

Sample Task

TASK BCM-02-01-ANY	**Identify the different parts of a line and the hitches used in line handling.**
References	a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
Conditions	Task should be performed at any time onboard any of the unit's boats without the use of any references or prompting.
Standards	In response to the instructor, the trainee must, without error, identify different parts of a line and basic knots.

Performance Criteria	Completed (Initials)
1. Identify bitter end of line correctly.	*IMU*
2. Identify standing part of line correctly.	*IMU*
3. Make bight in the line.	*IMU*

Instructor MK2 I. M. UNDERWAY **Date** 25 OCT 99

Comments

Description of Tasks

B.1. Task designation — Tasks are identified by designation. Below are two examples with explanations of the qualification task designations:

B.1.a. Example 1

BCM-02-03-ANY

- ANY — Task can be accomplished on any boat. ANY tasks are considered transferable from boat to boat and, therefore, need only be done once.
- 03 — Task designation number
- 02 — Division designation number
- BCM — Volume designation number – Boat Crew Member

B.1.b. Example 2

BCM-02-03-TYPE

- TYPE — Indicates that the task must be done individually for each different boat type for which qualification is desired.
- 03 — Task designation number
- 02 — Division designation number
- BCM — Volume designation number – Boat Crew Member

B.2. Task — The knowledge or skill objective to be performed.

B.3. Reference — Information sources used by the trainee and instructor to obtain the background necessary to enhance task performance.

B.4. Conditions — The conditions are the environmental and physical circumstances under which the tasks must be performed. Any tools or special equipment needed for the completion of the task are listed here. The conditions listed with each task must be met. The following definitions describe the terms found in the conditions and standards:

B.4.a. Heavy weather — Heavy weather is defined as seas and swell conditions combining to exceed 8 feet and/or winds exceeding 30 knots.

B.4.b. Rough bar

A rough bar is a river entrance or inlet where heavy seas or surf conditions exist. Also, in situations when the coxswain or the Commanding Officer/Officer-in-Charge is unsure, a rough bar is assumed.

B.4.c. Surf

Surf is defined as waves or swell of the sea breaking on the shore or a reef.

B.4.d. Boat operations

Term	Definition
Slow	Underway and moving ahead at clutch speed or slower
Underway	Not tied to a pier or float and not anchored or moored

B.4.e. Visibility

Term	Definition
Restricted	Visibility less than ¼ mile
Clear	All other states of visibility

B.4.f. Sea conditions

Term	Definition
Calm	Seas less than 4 feet
Moderate	Seas 4 to 8 feet
Heavy	Seas greater than 8 feet
Surf	Waves or swell of the sea breaking on the shore or a reef

NOTE

During the period a member is qualifying, the minimum sea conditions are just that, minimums. This qualifying period should include demonstration of skills during wind and sea conditions appropriate for the area. The unit commander should consider maximum weather limitations in conjunction with Commandant policies to ensure trainees build confidence and platform proficiency gradually. The trainee must practice in varied conditions within the above ranges and not just the minimums prior to certification.

B.5. Standards

Standards describe the expected outcome of the task. Successful task completion is a function of how well a student is able to complete the task without assistance. Generally the task performance standards are as follows:

B.5.a. Knowledge tasks

Trainee must be able to cite, from memory, the required information. Instructors may wish to ask questions concerning particular steps for accomplishment in order to measure the trainee's total comprehension of the subject matter.

B.5.b. Skill tasks

Trainee must be able to perform all performance tasks without prompting or assistance from the instructor. Each task demonstration must follow the correct sequence with little or no hesitation between the steps for accomplishment.

B.6. Performance criteria

These steps delineate the procedure that is best followed for performing each task. They can be utilized two basic ways:

- Aid in learning the task.
- Serve as a performance check.

B.6.a. Aid in learning the task

Some steps for task accomplishment follow exact procedures which are required for performing a particular operation or using a specific piece of equipment, while others serve as general guidelines for task completion.

B.6.b. Serve as a performance check

Some task steps can serve as a performance checkoff which can be used by the instructor to measure trainee performance when the trainee performs the task.

B.7. Accomplished

The designated instructor must print his/her name and rate, sign and date this line attesting that the trainee successfully performed the task in accordance with the prescribed standards.

B.8. Comments

The comment section can be used to describe circumstances or conditions which might have a bearing on task completion. Failure to perform any element or unsatisfactory performance of an individual element should be noted in the comments section for the task. If the task is completed under more arduous circumstances than those described, a notation should be made.

NOTE

Appendix A provides a list of all tasks in this instruction with space for the instructor to initial and date when each task has been completed.

NOTE

Chapters 3 and *5* list reading assignments for each division followed by a group of questions that should be used by the trainee as a study guide.

Section C. Instructor Guidance

Introduction

An instructor must be thoroughly familiar with the boat crew training process. Intimate knowledge of the contents of the following manuals is a must prior to commencing training.

- *Boat Crew Training Manual*, COMDTINST M16114.9 (series)
- *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- Applicable Boat Crew Qualification Guide

C.1. Duties

The instructor's duties include:

- Guiding the trainee through the qualification process in accordance with the instructions in *Chapter 1* of each qualification guide
- Teaching skills to trainees
- Observing trainee skill development during operations and training, while ensuring that established conditions and standards are met
- Certification recommendation to unit command upon completion of qualification process
- Maintaining own proficiency training and technical knowledge

C.2. Guiding the trainee through the process

Tasks are meant to be learned through constant practice under the instructor's guidance. This is accomplished by following the procedural steps listed below and provided in **figure 1-1**.

C.2.a. Give Chapter 3 to the trainee

Give the trainee the reading assignment and study guide questions. Remove *Chapter 3* from the manual and give it to the trainee to retain.

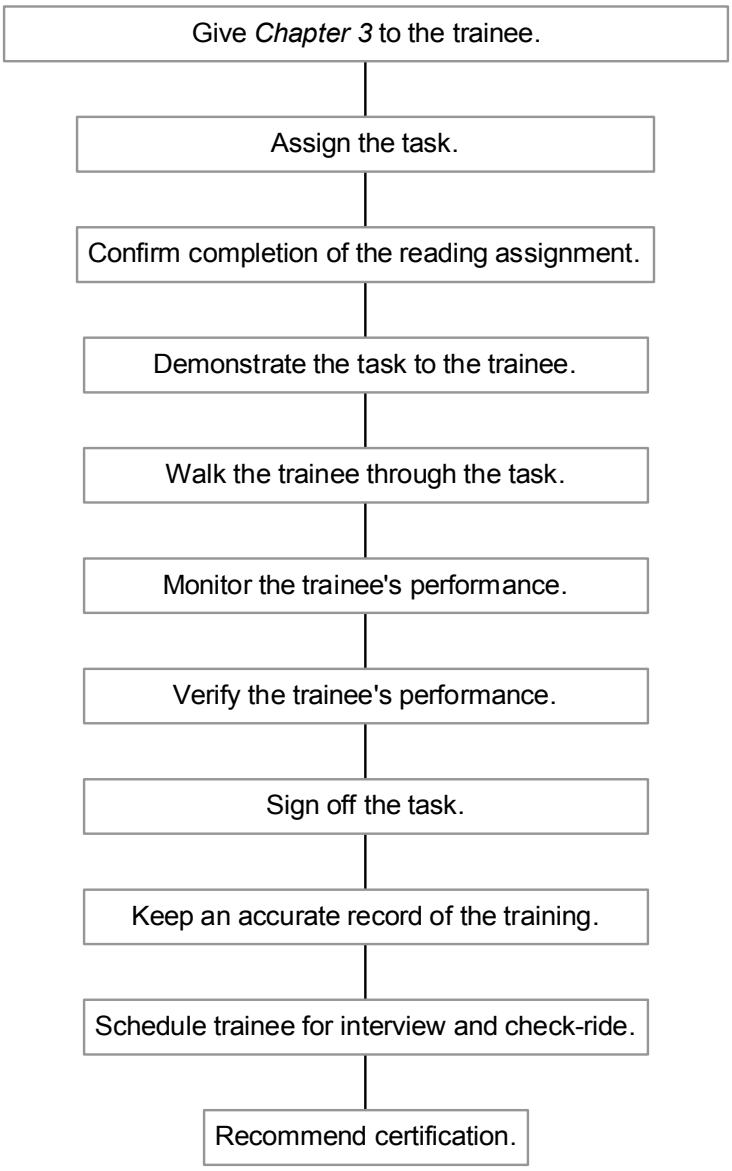

Figure 1-1
Procedures for Guiding Trainees

C.2.b. Assign the task	While divisions may at times be done concurrently, the tasks within each division should normally be accomplished in consecutive order. • Which tasks must be completed depends on the crew position and type of boat for which the trainee is being qualified. Those tasks which must be accomplished to qualify for each particular boat type are listed in *Section F* of this chapter. • Tasks designated as TYPE are considered to be specific to each boat type. These must be completed individually for each desired boat type qualification. • Tasks designated as ANY are considered general in nature. Completion of these tasks on any boat type is sufficient for the qualification process and need not be repeated when qualification is desired on another boat type.
C.2.c. Confirm completion of the reading assignment	Care should be taken at this point to clarify any misunderstandings the trainee might have about the material.
C.2.d. Demonstrate the task to the trainee	Demsonstrate the steps required to complete the task. During the demonstration, the instructor should narrate the procedures. If the task is one of the few that does not require demonstration, proceed to the next step.
C.2.e. Walk the trainee through the task	In order to ensure that the trainee understands, the instructor may want to walk the trainee through the steps more than once. There is no limit to the number of times the instructor performs the walk-through, however, trainee understanding must be ensured before continuing.
C.2.f. Monitor the trainee's performance	Trainee performance should be monitored during both training and operations. Qualification does not end with the first successful completion of the task. It is an ongoing process that ends only when successful task completion can be met consistently.

C.2.g. Verify the trainee's performance

Verify that the trainee's performance meets the standard. This includes two parts:

- The trainee must be able to perform the task subject to established conditions and standards delineated for the task.
- The trainee must be able to perform the task with no assistance.

The trainee is expected to perform each task on a consistent basis in accordance with the established standards and conditions.

C.2.h. Sign off the task

The instructor signs the task at the bottom of the page when he/she is confident that the trainee can perform the task consistently, while unsupervised.

C.2.i. Keep an accurate record of the training

The instructor must ensure that all task completions are documented in this manual.

NOTE

As a quick reference of the trainee's progress, the instructor should maintain the task accomplishment record located in *Appendix A*. This is accomplished by entering the start date as each task is assigned and then initialing and entering the completion date as each task is completed.

C.2.j. Schedule trainee for interview and check-ride

Inform the unit commander when all tasks in this manual are completed. When the trainee has completed all of the required tasks for the position and boat type, the qualification process is done. The instructor should inform the Boat Crew Examination Board and schedule the trainee for an interview and certification check-ride.

C.2.k. Recommend certification

When the Boat Crew Examination Board is satisfied with the trainee's performance and abilities, they may recommend to the unit commander that the trainee be certified.

C.3. Proficiency maintenance and technical knowledge

It is imperative that a very high level of professionalism be maintained among all unit instructors. All instructors must ensure that their certification remains current. In addition, instructors must ensure that they retain their proficiency with all installed boat equipment.

Section D. Trainee Guidance

Introduction

It is the trainee's responsibility to proficiently perform the tasks in accordance with the established standards. The tasks that make up *Chapter 2* of this guide represent the skills required to perform in the capacity of a crew member. There are four parts to this learning process:

- Read the assignments and ask questions.
- Pay attention during demonstrations.
- Complete walk-through with instructor.
- Practice the skill.

D.1. Read the assignments and ask questions

First, the trainee must become familiar with each task. All reading assignments must be read carefully. The trainee should seek guidance from the instructor to clear up any uncertainties.

D.2. Pay attention during demonstrations

Second, while the task is being demonstrated by the instructor, the trainee must pay close attention.

D.3. Complete walk-through with instructor

Third, the trainee will complete the task the first time with the instructor walking the trainee through the steps.

D.4. Practice the skill

Fourth, the trainee must practice the skill for consistent success at the task. The instructor will not sign off any task as complete until the trainee can consistently and correctly complete the task unsupervised.

D.5. Certification process

Once all required qualifications are completed, the certification process can begin.

Section E. Boat Types

Introduction

The following sections indicate the current listing of standard and non-standard boat (NSB) types. Where this listing conflicts with other reference documents regarding currently authorized boat types, the *Boat Management Manual*, COMDTINST M16114.4 (series) shall take precedence. To efficiently manage the logistics and training aspects of NSBs, district commanders should make every effort to minimize the number of different types of NSBs within their district. Standard boats remain the primary unit response resource. Consistent with *Response Boats 2010 – The Shore-Based Response Boat Strategic Vision and Transistion Plan*, COMDTINST 16114.20 (series), units shall not substitute NSBs for standard boats, except at stations (small) where units use larger NSBs as the primary response resource.

Standard boats

AtoN	
ANB	55' AtoN Boat
BUSL	49' Buoy Utility Stern Loading
Ship-based response	
CB-L	19' – 22' Cutter Boat - Large assigned onboard WLB, WHEC, WMEC, WIX, and WAGB
CB-M	17' and 18' Cutter Boat - Medium assigned onboard WLM, WPB and WTGB
CB-S	14' and 15' Cutter Boat - Small assigned onboard WLI, WLIC, WLR, 82' WPB and WYTL
CB-OTH	24' Cutter Boat - Over the Horizon (Zodiac 733 Interceptor)
MSB	26' Motor Surf Boat
Shore-based response	
MLB	44' and 47' Motor Lifeboat
RB-HS	Response Boat-Homeland Security, 25' Safeboat with cabin
RB-M	Response Boat - Medium
RB-S	Response Boat - Small
SPC (HWX)	52' Heavy Weather Special Purpose Craft (previously the 52' MLB)
UTB	41' Utility Boat, big

Non-standard boats

Training specific	
ATB	41' Aviation Training Boat (same as 41' UTB)
Miscellaneous	
DPB	38' Deployable Pursuit Boat (Fountain)
TPSB	25' Transportable Port Security Boat (Boston Whaler)
AtoN	
ANB	63' and 64' AtoN Boat
BU	45' Buoy Boat
Cable	Cable Servicing Special Purpose Craft
TANB	Trailerable AtoN Boat
Ship-based response	
ASB	Arctic Survey Boat
LCVP	Landing Craft
MCB	Motor Cargo Boat
Shore-based response	
IMARV	50' and 55' Independent Maritime Response Vessel
Training specific	
CT-64	Cadet Training Boat
DPB	42' Deployable Pursuit Boat (Fountain)
SB	Sailboat
Miscellaneous	
Ferry	Ferry Special Purpose Craft
PWB	Port & Waterways Boat
SKF	Skiff – a trailerable, open construction boat < 19' without installed electronics used for unit tendering, waterborne maintenance, and specialized immediate vicinity SAR response.
SPC	General Special Purpose Craft – a boat that is unique in the performance of an authorized mission requiring specialized capability that cannot be met within the standardized shore-based response boat fleet.

SPC (LE)	Law Enforcement Special Purpose Craft
SPC (surf)	30' Surf Special Purpose Craft (previously the 30' SRB)
TPSB	22' Transportable Port Security Boat (Boston Whaler)
UTL	Utility Boat Light – a 17' – 28' 11" fiberglass or aluminum hulled boat that may have fendering, have installed electronics and engines, and does not fill an STA (sm) primary response boat allowance. The UTL is representative of the secondary response platform at multi-mission stations. UTL encompasses all remaining shore-based response boats (with the exception of skiffs and SPCs). It includes all boats, which previously filled RIBB, RIBM, UTL and RIBL allowances. Due to the variety of boats that make up this designation, a UTL may be funded at one of two possible SSLs based primarily on boat length.
UTM	Utility Boat Medium – a 25' – 40' 11" in length, closed or partially closed cabin, fiberglass or aluminum hulled boat that may have fendering, have installed electronics and engines, and fills an authorized STA (sm) allowance as the unit's primary response boat.

Section F. Task List for Boat Crew Member

Introduction

Which tasks must be completed depends on the crew position and type of boat for which the trainee is being qualified. Those tasks which must be accomplished to qualify for each particular boat type are listed below.

NOTE Tasks listed as ANY shall be completed once for all boats as indicated. Tasks listed as TYPE are boat type specific and shall be completed on each boat as listed below for qualification.

BOAT TYPE

TASK	SKF	RB-M	CB-L CB-M	CB-OTH	DPB	TPSB	TANB	MSB MCB ASB	SPC	CB-S UTL UTM PWB RB-S RB-HS	UTB	MLB SPC (HWX)	BUSL ANB BU IMARV LCVP
BCM-01-01-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-01-02-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-01-03-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-01-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-02-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-03-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-04-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-05-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-06-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-07-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-08-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-09-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-10-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-11-ANY	X		X	X	X	X	X	X	X	X	X	X	X

TASK	SKF	RB-M	CB-L CB-M	CB-OTH	DPB	TPSB	TANB	MSB MCB ASB	SPC	CB-S UTL UTM PWB RB-S RB-HS	UTB	MLB SPC (HWX)	BUSL ANB BU IMARV LCVP
BCM-02-12-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-13-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-14-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-15-TYPE								O			X		X
BCM-02-16-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-17-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-02-18-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-03-01-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-03-02-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-03-03-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-03-04-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-03-05-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-03-06-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-03-07-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-03-08-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-01-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-02-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-03-TYPE	X		X			X	X	X	X	X	X	X	X
BCM-04-04-TYPE	X		X			X	X	X	X	X	X	X	X
BCM-04-05-ANY	X		X	X	X	X	X	X	X	X	X	X	X

TASK	SKF	RB-M	CB-L CB-M	CB-OTH	DPB	TPSB	TANB	MSB MCB ASB	SPC	CB-S UTL UTM PWB RB-S RB-HS	UTB	MLB SPC (HWX)	BUSL ANB BU IMARV LCVP
BCM-04-06-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-07-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-08-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-09-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-10-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-11-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-04-12-TYPE	X		X	X	X	X	X	X	X	X	X	X	X
BCM-05-01-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-05-02-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-05-03-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-01-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-02-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-03-ANY	X		X	O	X	X	X	X	X	X	X	X	X
BCM-06-04-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-05-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-06-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-07-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-08-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-09-TYPE			X	X	X	X	O	O		O	X	X	X
BCM-06-10-TYPE			X	X	X	X	X	X	X	X	X	X	X

TASK	SKF	RB-M	CB-L CB-M	CB-OTH	DPB	TPSB	TANB	MSB MCB ASB	SPC	CB-S UTL UTM PWB RB-S RB-HS	UTB	MLB SPC (HWX)	BUSL ANB BU IMARV LCVP
BCM-06-11-TYPE			X	X	X	X	X	X	X	X	X	X	X
BCM-06-12-TYPE											X	X	X
BCM-06-13 TYPE			X	X	X	X	X	O	X	X	X	X	X
BCM-06-14-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-06-15-ANY												X	X
BCM-07-01-TYPE			X	X	X	X	X	X	X	X	X	X	X
BCM-07-02-TYPE			X	X	X	X	X	X	X	X	X	X	X
BCM-07-03-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-07-04-TYPE									X		X	X	
BCM-07-05-TYPE	X		X			X	X	X	X	X	X	X	X
BCM-07-06-ANY	X		X	X	X	X	X	X	X	X	X	X	X
BCM-07-07-ANY			X			X	X	X	X	X	X	X	X
BCM-07-08-TYPE			X			X	X	X	X	X	X	X	X
BCM-07-09-ANY			X			X	X	X	X	X	X	X	X
BCM-07-10-TYPE			X			X	X	X	X	X	X	X	X
BCM-07-11-ANY			X			X	X	X	X	X	X	X	X
BCM-07-12-ANY											X		O
BCM-07-13-TYPE			X			X	X	X	X	X	X	X	X
BCM-07-14-ANY				X	X						X		O
BCM-07-15-TYPE			X	X	X	X	X	X	X	X	X	X	X

TASK	SKF	RB-M	CB-L CB-M	CB-OTH	DPB	TPSB	TANB	MSB MCB ASB	SPC	CB-S UTL UTM PWB RB-S RB-HS	UTB	MLB SPC (HWX)	BUSL ANB BU IMARV LCVP
BCM-07-16-ANY			X			X	X	X	X	X	X	X	X
BCM-07-17-ANY				X	X						X		O
BCM-07-18-TYPE											X		O
BCM-07-19-TYPE			X			X	X	X	X	X	X	X	X
BCM-07-20-ANY	X		X			X	X	X	X	X	X	X	X
BCM-07-21-TYPE				X	X						X	X	X
BCM-07-22-TYPE	X		X	X	X	X	X	X	X	X	X	X	X

AtoN Crew Member Qualification Tasks

TASK	SKF	RB-M	CB-L CB-M	CB-OTH	DPB	TPSB	TANB	MSB MCB ASB	SPC	CB-S UTL UTM PWB RB-S RB-HS	UTB	MLB SPC (HWX)	BUSL ANB BU IMARV LCVP
BDCM-01-01-ANY													X
BDCM-01-02-TYPE													X
BDCM-01-03-TYPE													X
BDCM-01-04-TYPE													X
BDCM-01-05-TYPE													X
BDCM-01-06-TYPE													X
BDCM-01-07-TYPE													X
BDCM-01-08-TYPE													X
BDCM-01-09-TYPE													X
BDCM-01-10-TYPE													X

TASK	SKF	RB-M	CB-L CB-M	CB-OTH	DPB	TPSB	TANB	MSB MCB ASB	SPC	CB-S UTL UTM PWB RB-S RB-HS	UTB	MLB SPC (HWX)	BUSL ANB BU IMARV LCVP
BDCM-01-11-TYPE													X
BDCM-01-12-TYPE													X
BDCM-01-13-TYPE													X
BDCM-01-14-TYPE													X
BDCM-01-15-TYPE													X
BDCM-01-16-TYPE													X
BO-02-01-TYPE													X
BO-02-02-TYPE													X
BO-02-03-TYPE													X
BO-02-04-TYPE													X
BDS-03-01-TYPE													X
BDS-03-02-TYPE													X
BDS-03-03-TYPE													X
BDS-03-04-TYPE													X

KEY X = Task required for boat type qualification.
O = Task required, if equipped, for boat type qualification.

Chapter 2
Crew Member Qualification Tasks

Introduction

The following are the instructions for this chapter:

- The purpose of this chapter is to provide guidance on the trainee's progress through the qualification tasks.
- The instructor should present the tasks to the trainee in a logical order using the instructions provided in *Chapter 1*.
- Tasks should be signed, dated, and placed in the trainee's training record when the instructor is satisfied that the trainee can consistently perform a task in accordance with all standards and conditions.

In this chapter

This chapter contains the following sections:

Section A. Crew Efficiency Factors, Risk Factors and Team Coordination

Introduction

The following are objectives of Division One:

- **Demonstrate** knowledge of the factors that effect crew performance.
- **Attend** Team Coordination Training.

In this section

This section contains the following tasks:

TASK BCM-01-01-ANY **Crew Fatigue**

References
a. *Boat Crew Utilization*, COMDTINST 5312.16 (series)
b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 3, Section B*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards Trainee must demonstrate knowledge of each task to the minimum standards included in each performance step.

Performance Criteria	Completed (Initials)
1. Describe the situations that may cause fatigue.	_____
2. State the crew's responsibility.	_____
3. Describe the primary symptoms of fatigue.	_____
4. Describe the prevention measures.	_____
5. State underway limits for unit's boats.	_____

Instructor _____ **Date** _____

Comments _____

TASK BCM-01-02-ANY	**Motion Sickness**
References	a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 3, Section C*
Conditions	Task should be performed at any time, at facilities available to the unit.
Standards	Trainee must demonstrate knowledge of each task to the minimum standards included in each performance step.

Performance Criteria	Completed (Initials)
1. Explain the causes of motion sickness.	_____
2. List the symptoms of motion sickness.	_____
3. List the prevention and medication for motion sickness.	_____
4. Explain when best to take anti-motion sickness medication.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-01-03-ANY	**Team Coordination Training (TCT)**
References	a. *Team Coordination Training*, COMDTINST M1541.1 (series)
Conditions	Task should be performed at any time, at facilities available to the unit.
Standards	Trainee must attend the training as prescribed in the reference above.

NOTE Attendance at TCT must be recorded in the trainee's Training Record.

Performance Criteria	Completed (Initials)
1. Date initial training completed: _____	_____

Instructor _____ **Date** _____

Comments _____

_____

Section B. Physical Fitness, First-Aid, and Survival

Introduction

The following are objectives of Division Two:

- **Achieve** and **maintain** the level of physical conditioning necessary to safely and properly carry out the duties of a boat crew member aboard a Coast Guard boat.
- **Identify** and **become** proficient in those skills necessary for coping with open water survival situations.
- **Effectively** use all standard boat crew signaling and survival equipment.

In this section

This section contains the following tasks:

TASK BCM-02-01-ANY	**Personal Physical Fitness and Vision**
References	a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 3, Section A*
Conditions	Task should be performed at any time, at facilities available to the unit. Steps may be done all at once or over a period of time.
Standards	Trainee must demonstrate the ability to perform the requirements set forth in the above references based on age and gender.

Performance Criteria	**Completed (Initials)**
1. Demonstrate normal color vision using the Farnsworth Lantern Test or the Pseudoisochromatic Plate Test.	_____
2. Accomplish all physical fitness requirements in accordance with the above reference.	_____
Age: _____ Gender: _____	

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-02-ANY **Crew First-Aid Responsibility**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 5, Section A*

b. Certifying Organization's Training Manual

Conditions

Task should be performed at any time, at facilities available to the unit. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the American Red Cross, National Safety Council, or American Safety and Health Institute First-Aid Course to receive triennial certification.

Performance Criteria	Completed (Initials)
1. Certification Type and Date course completed. Course: _____ Date: ___/___/___	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-03-ANY **Demonstrate Adult, Child, and Infant CPR**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 5, Section B*

b. Certifying Organization's Training Manual

Conditions

Task should be performed at any time, at facilities available to the unit. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the American Red Cross, American Heart Association, National Safety Council, or American Safety and Health Institute CPR course to receive certification.

Performance Criteria	Completed (Initials)
1. Certification Type and Date course completed. Course: _____ Date: ___/___/___	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-04-ANY **Don the Type III PFD**

References a. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards In response to the instructor, the trainee shall, without error, don the Type III PFD.

Performance Criteria	Completed (Initials)
1. Demonstrate proper donning of the Type III PFD and adjust for proper fit.	_____
2. State when the Type III PFD is required to be worn.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-05-ANY **Don the Type III Flotation Jacket**

References	b. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*
Conditions	Task should be performed at any time, at facilities available to the unit.
Standards	In response to the instructor, the trainee shall, without error, don the Type III flotation jacket.

Performance Criteria	Completed (Initials)
1. Demonstrate proper donning of the Type III flotation jacket and adjust for proper fit.	_____
2. State when the Type III PFD is required to be worn.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-06-ANY **Don Anti-Exposure Coveralls**

References a. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards In response to the instructor, the trainee shall, without error, don the anti-exposure coveralls.

Performance Criteria	Completed (Initials)
1. Demonstrate proper donning of the anti-exposure coveralls and adjust for proper fit.	_____
2. Demonstrate proper use of the special construction features of the anti-exposure coveralls (i.e. zipper closures; ankle, thigh and wrist straps; pillow; waist belt) and state how these increase hypothermia protection when utilized in the water.	_____
3. State when the anti-exposure coveralls are required to be worn.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-07-ANY **Don the Boat Crew Dry Suit**

References a. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*

Conditions Task should be performed at any time, at facilities available to the unit.

NOTE This task is not required to be performed at units located in District 7, 8, 14, and Activities in San Diego.

Standards In response to the instructor, the trainee shall, without error, don a boat crew dry suit.

Performance Criteria	Completed (Initials)
1. State the proper thermal protective layers to be worn under the boat crew dry suit.	_____
WARNING Cotton undergarments are not authorized.	
2. Demonstrate proper donning of the boat crew dry suit and adjust for proper fit. Demonstrate proper donning of required neoprene hood.	_____
3. State the requirements for when a boat crew dry suit is to be worn.	_____
4. State the proper method for inspecting neck and wrist seals as well as general boat crew dry suit condition. Describe proper methods for sizing neck and wrist seals. State problems that would make a boat crew dry suit unserviceable.	_____
5. State requirements and proper methods for maintenance and stowage of the boat crew dry suit.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-08-ANY **Identify Boat Crew Survival Vest Equipment**

References
a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6*
b. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards In response to the instructor, the trainee must, without error, identify the objects in the steps.

Performance Criteria	Completed (Initials)
1. State from memory the proper location and contents of the boat crew survival vest.	_____
2. Identify each item from the vest and explain its use: a. Emergency signal mirror b. Signal whistle c. MK-124 marine smoke and illumination signal d. MK-79 signal kit e. Distress signal light f. Survival knife	_____
3. State when the boat crew survival vest is required to be worn.	_____

Instructor _____ **Date** _____

Comments _____

_____

_____

TASK BCM-02-09-ANY **Use the Emergency Signaling Mirror**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section D*

b. Manufacturer Guidelines

c. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3, Section D*

Conditions

Task shall be performed while floating in water deeper than the trainee's height, during daylight hours. Trainee should be wearing survival gear consistent with the weather and water temperature, and a boat crew personnel survival vest. Sunlight should be reflected onto a predetermined target (boat, location on a wall, etc.). Trainee must accomplish the task without prompting or use of a reference.

Standards

The light rays from the sun must be reflected onto the predetermined object within one minute of trainee receiving a signal from the instructor.

Performance Criteria	Completed (Initials)
1. Locate and break out signal mirror.	_____
2. Reflect sunlight from the mirror onto a nearby surface (hand, wall, boat).	_____
3. Bring mirror to eye level, and sight target through sighting hole.	_____
4. Hold mirror close to eye and manipulate so that light spot is on designated target.	_____
5. Sweep horizon to demonstrate attention-attracting technique.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-10-ANY **Demonstrate the Use of the MK-124 Smoke and Illumination Signal**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section D*

b. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3, Section D*

Conditions

Task is accomplished in two parts:

- Ashore - Trainee identifies the signal ends and describes sequence required to ignite the signal. Identification of signal ends should be done in a well-darkened room.
- Afloat - In water deeper than the trainee's height, activate the signal. Trainee should wear survival gear consistent with the weather and water temperature, and a boat crew personnel survival kit. Either end of the signal can be activated.

Trainee must accomplish the task without prompting or use of a reference.

Standards

Trainee must immediately identify the signal. Trainee must be able to distinguish between the day and night ends of the signal by touch alone. Trainee must be able to activate the signal while floating within one minute of receiving a signal from the instructor.

Performance Criteria	Completed (Initials)
1. Complete the following tasks ashore: a. Identify and break out signal. b. Identify day and night ends of the signal by touch alone.	_____
2. Complete the following tasks in the water: a. Break out signal while floating. b. Remove cap on end of signal. c. Extend plastic lever out fully. d. Hold signal downwind, at arms length, at 45-degree angle from the horizon over the side of the raft or away from dry debris. e. Pull down on tab to ignite signal.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-11-ANY **Demonstrate the Use of the MK-79 Illumination Signal Kit**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section D*

b. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3, Section D*

Conditions

Task must be accomplished while afloat in water deeper than the trainee's height during daylight hours. Trainee should wear survival gear consistent with the weather and water temperature, and a boat crew personnel survival vest. Trainee should not fire the cartridge until directed by the instructor. Trainee must accomplish the task without prompting or use of a reference.

Standards

Trainee must immediately identify the signal. Trainee must be able to load the cartridge into the launcher and fire, or simulate firing the signal within two minutes of receiving a signal from the instructor. All steps must be done in the order listed.

NOTE

The requirement for the trainee to activate the signal may be waived if adequate quantities of the signal are not available for training. If this requirement is waived, the trainee shall list in writing the procedures and safety precautions to be followed when igniting the MK-79.

Performance Criteria	Completed (Initials)
1. Identify and break out MK-79 signal kit.	_____
2. Break out launcher and bandoleer from plastic envelope.	_____
3. Pull trigger screw of launcher into safety slot.	_____
4. Bend protective tab away from the signal.	_____
5. Load signal cartridge into launcher and rotate *clockwise* until signal is seated.	_____
6. Hold launcher over head with arm fully extended. Point launcher away from the body on a slight angle.	_____
7. On command of the instructor, fire signal by slipping the trigger screw out of the safety slot and into the firing slot.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-12-ANY **Operate the SDU-5/E or CG-1 Strobe Light**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section D*

b. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3, Section D*

Conditions

Task must be accomplished while afloat in water deeper than the trainee's height during daylight hours. Trainee should wear survival gear consistent with the weather and water temperature, and a boat crew personnel survival vest. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must immediately identify the signal. Trainee must be able to break out and activate the signal within one minute of entering the water or being given a signal by the instructor.

Performance Criteria	Completed (Initials)
1. Locate and remove the SDU-5/E or CG-1 strobe light from its case.	_____
2. Activate strobe light.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-13-ANY **Don the Boat Crew Survival Vest**

References a. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards In response to the instructor, the trainee shall, without error, don the boat crew survival vest.

Performance Criteria	Completed (Initials)
1. Demonstrate proper donning of the boat crew survival vest over the following PFDs and adjust for proper fit: a. Type III PFD b. Flotation jacket c. Anti-exposure coverall	_____
2. Access the following equipment: a. Strobe light b. Whistle c. Signal mirror d. MK-124 day/night signal e. MK-79 signal kit f. Knife g. Personal EPIRB (if carried) h. Tether (if carried)	_____
3. State the requirements for when the boat crew survival vest is to be worn.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-14-ANY **Don the Inflatable PFD**

References a. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 4*

Conditions Task should be performed at any time, at facilities available to the unit.

NOTE This qualification task is only required at units using inflatable PFDs.

Standards In response to the instructor, the trainee shall, without error, don the inflatable PFD and explain the policy associated with the attached survival equipment.

Performance Criteria	Completed (Initials)
1. Complete the Performance Qualification Standard for each inflatable PFD type in use at the unit.	_____
NOTE Place the original PQS for the Inflatable PFD in the trainee's Training Record.	
2. State when an inflatable PFD is required to be worn. State the policy associated with carrying required survival/signal equipment as part of the inflatable PFD outfit in lieu of wearing the boat crew survival vest.	_____
3. Access the following equipment: a. Strobe light b. Whistle c. Signal mirror d. MK-124 day/night signal e. MK-79 signal kit f. Knife g. Personal EPIRB (if carried) h. Tether (if carried)	_____
4. State the requirements and proper methods for maintenance and stowage of the inflatable PFD.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-15-TYPE **Explain the Manual Deployment and Boarding Procedures for the Rescue and Survival Raft**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section G*

b. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 5, Section B*

Conditions

Task should be performed only for those boats equipped with a life raft. Task may be performed at any time. Trainee must accomplish the task without prompting or the use of a reference.

Standards

Trainee should be able to identify equipment, and cite steps in the procedures without error. When practical, consideration should be given to deploying the raft for training (i.e. prior to yearly inspection).

Performance Criteria	Completed (Initials)	Boat Type
1. Identify and locate raft and container.	_____ _____ _____	_____ _____ _____
2. List and explain procedures for deploying and manning the raft.	_____ _____ _____	_____ _____ _____
3. Explain best location to deploy the raft dependent upon environmental conditions.	_____ _____ _____	_____ _____ _____
4. Remove raft from rack.	_____ _____ _____	_____ _____ _____
5. Place raft in water in best location for boarding.	_____ _____ _____	_____ _____ _____
6. Pull the 50-foot painter line from the raft container to inflate raft.	_____ _____ _____	_____ _____ _____
7. Board raft from alongside boat, if possible.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-16-TYPE **List Survival Procedures in Event of Boat Capsize**

References a. *Boat Crew Seamanship Manua*l, COMDTINST M16114.5 (series), *Chapter 6, Section H*

Conditions Trainee must accomplish the task without prompting or the use of references.

Standards Trainee should be able to list all steps in the procedure without error.

Performance Criteria	Completed (Initials)	Boat Type
1. State all egress routes.	_____ _____ _____	_____ _____ _____
2. Locate nearest exit to open water.	_____ _____ _____	_____ _____ _____
3. Inventory survival gear.	_____ _____ _____	_____ _____ _____
4. Select best swimmer to exit first carrying line.	_____ _____ _____	_____ _____ _____
5. First swimmer exits craft, if necessary, with PFD in hand.	_____ _____ _____	_____ _____ _____
6. First swimmer contacts crew still inside by tapping on the hull of the boat.	_____ _____ _____	_____ _____ _____
7. Rest of crew exits one at a time.	_____ _____ _____	_____ _____ _____
8. Crew stays with the boat until rescued or boat sinks.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-17-ANY **Open Water Survival Skills**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

b. *Team Coordination Training*, COMDTINST 1541.1 (series)

c. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards In response to the instructor, the trainee shall explain risk-based decisions associated with open water survival skills.

Performance Criteria	Completed (Initials)
1. Explain the benefits associated with the different levels of hypothermia protective garments and how they relate to Tables 3-1 and 3-2 of the *Rescue and Survival Systems Manual*.	_____
2. Explain the factors that accelerate the onset of hypothermia.	_____
3. Describe the preventive measures that can be used to increase the chances for successful open water survival including methods of tethering.	_____
4. Explain the benefits for getting your body out of the water as much as possible in open water survival situations.	_____
5. Explain risk-based decisions associated with swimming in open water survival situations.	_____
6. Describe the method for: a. Climbing onto an overturned boat hull. b. Boarding a boat from the water. c. Boarding a life raft.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-02-18-ANY **Perform Water Survival Exercise**

References

a. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Table 3-1*

b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

This exercise shall be completed by entering water from a height of approximately 3 feet above the surface or from the level of the boat's main deck. Trainee shall wear flotation, hypothermia protective garments and survival equipment consistent with the coldest weather and water temperature experienced at the unit. If this task is completed near a boat or unit docks, ensure the area is free of any dangers (i.e. debris, snags, shoals, excess currents, or biological hazards). An immediate means of response must be available to assist any member that develops trouble during the completion of this task. Trainee shall accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee shall, without error, complete all steps of the water survival exercise

Performance Criteria	Completed (Initials)
1. Don flotation, hypothermia protective garments and survival equipment, and adjust for proper fit. Personnel wearing dry suits shall don the required neoprene hood after entering the water.	_____
2. Enter the water from a height of approximately 3 feet or from the level of the boat's main deck. a. Check surrounding water for debris and depth. b. Look straight ahead when entering water, but maintain awareness of surroundings (i.e. boat movement, wave action, currents). c. Maintain vertical position (body erect) upon entry into water. d. Minimize initial immersion by spreading arms and applying a scissors kick upon entry.	_____
3. Adjust flotation, hypothermia protective garments and survival equipment to reduce water intrusion, heat loss, and to improve mobility and buoyancy.	_____
4. Swim 100 yards using an energy conserving stroke or movement.	_____
NOTE The preferred swim stroke is the resting backstroke.	
5. Demonstrate the Heat Escape Lessening Position (HELP) for a single person in the water.	_____
6. Tether to other survivors and demonstrate the Heat Escape Lessening Position (HELP) for multiple survivors.	_____
7. Access and demonstrate the use of the following equipment: a. Strobe light b. Whistle c. Signal mirror d. MK-124 day/night signal e. MK-79 signal kit f. Knife g. Personal EPIRB (if carried) h. Tether (if carried)	_____

Instructor _____ **Date** _____

Comments _____

_____

Section C. Marlinespike Seamanship, Boat Nomenclature, Nautical Terminology, and Basic Stability

Introduction

The following are objectives of Division Three:

- **Identify**, **explain** the use of, and be able to consistently **tie** the basic knots and hitches used aboard Coast Guard boats.
- **Demonstrate** the ability to secure lines of various sizes to several types of deck and dock fittings.
- **Identify** the different parts of a boat's ground tackle and be able to assist in anchoring a boat.

In this section

This section contains the following tasks:

TASK BCM-03-01-ANY **State Common Boat Nomenclature and Terminology**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8, Section A*

Conditions Task should be performed onboard one of the unit's boats. Trainee must accomplish the task without prompting or use of a reference.

Standards In response to the instructor, the trainee must, without error, identify different locations and positions aboard the boat.

Performance Criteria	Completed (Initials)
1. Identify bow of the boat.	_____
2. On command, move forward on the boat.	_____
3. Identify starboard side of boat.	_____
4. Identify port side of boat.	_____
5. Identify athwartships.	_____
6. Identify outboard and inboard areas.	_____
7. Identify stern of the boat.	_____
8. Identify port quarter.	_____
9. Identify starboard bow.	_____
10. Identify windward and leeward side of the boat.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-03-02-TYPE **Locate and Identify the Purpose of the Equipment Aboard the Boat**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8, Section D*

Conditions

Task should be performed using a simple line diagram of a boat and the boat check-off or boat outfit list. Trainee should list the location of each piece of equipment on the diagram. Trainee must accomplish the task without prompting or use of a reference.

Standards

Trainee must label and explain the use of installed equipment and fittings.

Performance Criteria	Completed (Initials)	Boat Type
1. Label each piece of equipment or fitting. a. Anchors b. Anchor lines c. Chafing chain d. Screw pin shackle e. Swivel f. Thimble g. Towline h. Alongside lines i. Heaving lines j. Grapnel hook k. Boat hook l. Kicker hook m. Shackles n. First-aid kit o. Boat crew survival vests or Type III inflatable PFD p. Heavy weather crew safety belts q. Type I PFDs w/ distress signal light, whistle and reflective tape r. Ring buoy s. Portable dewatering pump t. Eductor and hoses u. Portable fire extinguishers v. Fixed fire fighting systems	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

_____

TASK BCM-03-03-TYPE **Boat Characteristics - Boat Construction**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8, Section B*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards Trainee must demonstrate knowledge of each task.

Performance Criteria	Completed (Initials)	Boat Type
1. Name and define the three basic types of hulls.	_____ _____ _____	_____ _____ _____
2. Define keel and name the two keel types.	_____ _____ _____	_____ _____ _____
3. Name and define the most common boat measurements (beam, height, fixed height, length, freeboard, and draft).	_____ _____ _____	_____ _____ _____
4. Name the parts of doors and hatches that are used to make them watertight.	_____ _____ _____	_____ _____ _____
5. Name and define the measurements used to define boat displacement.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-03-04-TYPE **Boat Characteristics - Watertight Integrity**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8, Section C*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards Trainee must either demonstrate knowledge of, or perform each task.

Performance Criteria	Completed (Initials)	Boat Type
1. State the watertight compartments of each boat type.	_____ _____ _____	_____ _____ _____
2. Describe the factors that should be determined before you open watertight doors, hatches, and scuttle covers on a damaged boat.	_____ _____ _____	_____ _____ _____
3. Open a watertight door and hatch.	_____ _____ _____	_____ _____ _____
4. Close a watertight door and hatch.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-03-05-TYPE **Stability**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 9, Section B*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards Trainee must either demonstrate knowledge of or perform each task.

Performance Criteria	Completed (Initials)	Boat Type
1. State the two primary forces that affect a vessel's stability.	_____ _____ _____	_____ _____ _____
2. Define center of gravity and describe how it changes as weight is added or subtracted upon the vessel.	_____ _____ _____	_____ _____ _____
3. Define buoyancy.	_____ _____ _____	_____ _____ _____
4. Define equilibrium and describe how is it changed during rolling, heeling, and listing.	_____ _____ _____	_____ _____ _____
5. State the two types of stability.	_____ _____ _____	_____ _____ _____
6. Describe the two types of forces that affect stability.	_____ _____ _____	_____ _____ _____
7. List the general vessel design features that influence stability.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-03-06-ANY **Identify the Different Parts of a Line and the Hitches Used in Line Handling**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 7, Sections A and D*

Conditions

Task should be performed at any time, ashore or afloat, without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, identify the different parts and configuration of a line.

Performance Criteria	Completed (Initials)
1. Define lay of line for: a. double braided b. plain laid	_____
2. Define line material: a. polypropylene b. nylon, including double braid c. natural fiber	_____
3. Identify bitter end of line.	_____
4. Identify standing part of line.	_____
5. Make bight in the line.	_____
6. Make overhand loop in the line.	_____
7. Make underhand loop in the line.	_____
8. Make turn around an object.	_____
9. Make round turn around an object.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-03-07-ANY	**Tie Various Knots, Hitches, and Bends**
References	a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 7, Section D*
Conditions	Task should be performed at any time, onboard one of the unit's boats or at the unit's pier, without prompting or use of a reference.
Standards	In response to the instructor, the trainee must, without error, tie the following hitches, knots and bends quickly and confidently.

Performance Criteria	Completed (Initials)
1. Tie a square (reef) knot.	_____
2. Tie bowline in the end of a mooring line.	_____
3. Put a temporary eye in towline, using a bowline.	_____
4. Untie knot by "breaking" the bowline.	_____
5. Secure line to a rail using a clove hitch.	_____
6. Secure clove hitch by using two half hitches.	_____
7. Mount fender using a slip clove hitch.	_____
8. Attach heaving line to a towline using a sheet bend, snap hook, bowline and/or clove hitch with two half hitches.	_____
9. Add length of mooring line to a towline using a double becket bend.	_____
10. Secure log, board, or other rough surfaced object, by using a timber hitch and two half hitches.	_____
11. Tie bowline around an object.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-03-08-ANY **Secure Lines to Cleats, Bitts, and Posts**

References
a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 7, Section E*

Conditions
Task should be performed at any time, onboard one of the unit's boats, or at the unit's pier, without prompting or use of a reference.

Standards
In response to the instructor, the trainee must demonstrate the correct method for securing a line to cleats, bitts and posts.

Performance Criteria	Completed (Initials)
1. Locate all standard cleats on boat.	_____
2. Place complete round turn around the base of the cleat.	_____
3. Lead line over the top of the cleat and around the horns to form a figure eight.	_____
4. Secure additional figure eights until the cleat is secured with at least three figure eights.	_____
5. Feed eye of the line through the opening in the base of the cleat.	_____
6. Loop line back over horns and pull taut.	_____
7. Place eye of first mooring line over the cleat.	_____
8. Run eye of second mooring line through the eye of the first.	_____
9. Place eye of second mooring line over the cleat.	_____
10. Identify and locate all bitts on boat.	_____
11. Make a complete turn around the near horn.	_____
12. Make three or more figure eights around both horns.	_____
13. Identify and locate sampson post on boat.	_____
14. Make complete round turn around the base of the sampson post.	_____
15. Make several figure eights around horns of the post.	_____

Instructor _____ **Date** _____

Comments _____

_____

Section D. Boat Handling

Introduction

The following are objectives of Division Four:

- **Define** the common terms used for identification aboard a Coast Guard boat.
- **Identify** and **explain** the purpose or use of the different fittings and equipment located on a Coast Guard boat.
- **Demonstrate** the ability to participate in the common watches performed aboard Coast Guard boats.

In this section

This section contains the following tasks:

TASK BCM-04-01-ANY **Rig Fenders to Side of the Boat**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 7, Section D*, and *Chapter 17, Section C*

Conditions

Task should be performed at any time onboard a unit boat, without prompting or the use of a reference.

Standards

In response to the instructor, the trainee must correctly rig fenders to the side of the boat. Fenders should be the proper height to avoid damage.

Performance Criteria	Completed (Initials)
1. Tie fenders in place using a slip clove hitch.	_____
2. Position all fenders appropriately for width and height of pilings and piers.	_____
3. Place fenders at contact points between boat and pier, dock or another boat.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-02-TYPE **Make Fast a Boat to a Pier (Bow On Mooring, No Current/Wind)**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section D*

b. Chapman Piloting

Conditions

Task should be performed at any time onboard a unit boat without prompting or use of a reference. Trainee may be supervised by the coxswain who will maneuver the boat.

Standards

In response to the instructor, the trainee must demonstrate, in proper sequence, the correct procedures for securing a boat to a pier using the boats mooring lines.

Performance Criteria	Completed (Initials)	Boat Type
1. Place forward spring line on pier cleat tended and secure to the boat.	_____ _____ _____	_____ _____ _____
2. Place stern line on pier cleat and secure to the boat.	_____ _____ _____	_____ _____ _____
3. Place bow line on pier cleat and secure to the boat.	_____ _____ _____	_____ _____ _____
4. Place aft spring line on pier cleat and secure to the boat.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-03-TYPE **Assist in Anchoring the Boat**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section H*

Conditions Task should be performed at any time onboard each assigned boat, without prompting or use of a reference.

Standards In response to the instructor, trainee must demonstrate, in proper sequence, the correct procedure for anchoring the boat.

Performance Criteria	Completed (Initials)	Boat Type
1. State the main parts of the anchor.	_____ _____ _____	_____ _____ _____
2. State the equipment associated with anchoring.	_____ _____ _____	_____ _____ _____
3. Establish communications with coxswain during the evolution.	_____ _____ _____	_____ _____ _____
4. Ascertain amount of scope needed based on depth of water and type of bottom.	_____ _____ _____	_____ _____ _____
5. Break out and attach anchor line to anchor.	_____ _____ _____	_____ _____ _____
6. Lower anchor over side, hand-over-hand at coxswain's command (on 47' MLB throw anchor clear of the side).	_____ _____ _____	_____ _____ _____
7. Inform coxswain of direction line tending at all times as anchor line pays out (veers).	_____ _____ _____	_____ _____ _____
8. Secure anchor line to bitt at coxswain's command.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-04-TYPE **Assist in Weighing the Boat's Anchor**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section H*

Conditions Task should be performed at any time onboard each assigned boat, without prompting or use of a reference.

Standards The trainee must demonstrate, in proper sequence, the procedures for weighing the boat's anchor.

Performance Criteria	Completed (Initials)	Boat Type
1. Establish communications with coxswain.	_____ _____ _____	_____ _____ _____
2. Remove slack from anchor line as boat moves ahead.	_____ _____ _____	_____ _____ _____
3. Stow anchor line below deck, away from work area, immediately as it's brought aboard.	_____ _____ _____	_____ _____ _____
4. Signal to coxswain when the anchor line is at short stay (*up and down*).	_____ _____ _____	_____ _____ _____
5. Break anchor free from bottom (if anchor does not break free, trainee makes fast anchor line to bitt while coxswain moves the boat ahead to break it free).	_____ _____ _____	_____ _____ _____
6. Determine if anchor is clear and clean.	_____ _____ _____	_____ _____ _____
7. Haul anchor aboard the boat.	_____ _____ _____	_____ _____ _____
8. Make up and stow all equipment.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-05-ANY **Identify the Common Navigation Lights Displayed by Ships and Boats**

References

a. *Navigation Rules International-Inland*, COMDTINST M16672.2 (series), *Part C*

b. Chapman Piloting

Conditions

Task should be performed at night, onboard any unit boat. Trainee must identify the types of lights when presented with pictures or actual lights by the instructor. The navigation rules used should be those used in the unit's area of operations. Trainee must accomplish the task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, verbally identify the lights listed below.

Performance Criteria	Completed (Initials)
1. Identify port side light.	_____
2. Identify starboard side light.	_____
3. Identify stern light.	_____
4. Identify anchor light.	_____
5. Identify towing lights.	_____
6. Identify sailboat masthead light.	_____
7. Identify bow combination light for small boats.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-06-ANY **Identify the Common Sound Signals Used by Ships and Boats**

References

a. *Navigation Rules International-Inland*, COMDTINST M16672.2 (series), *Part D*

b. Chapman Piloting

Conditions

Task should be performed at any time, onboard any unit boat. Trainee must identify the sound signals when presented with examples of the signals. The navigation rules used should be those used in the unit's area of operations. Trainee must accomplish the task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, verbally identify the signals listed below.

Performance Criteria	Completed (Initials)
1. Identify short blast.	_____
2. Identify prolonged blast.	_____
3. Identify danger signal.	_____
4. Identify signal for intention, coming to port (inland).	_____
5. Identify whistle signal for sailing vessels during periods of reduced visibility.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-07-ANY **Identify and Describe Accepted Maritime Distress Signals**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 11, Section F*

b. *Navigation Rules International-Inland*, COMDTINST M16672.2 (series), *Rule 37*

Conditions Task should be performed at any time, at facilities available to the unit. Trainee must accomplish the task without prompting or use of a reference.

Standards The trainee must, without error, verbally identify the distress signals listed below when given an illustration of each distress signal by the instructor.

Performance Criteria	Completed (Initials)
1. Red star shells.	_____
2. Continuous sounding fog horn.	_____
3. Orange smoke marker.	_____
4. Dye marker (any color).	_____
5. Red parachute flare.	_____
6. Flames on a vessel.	_____
7. November code flag flown over the Charlie code flag.	_____
8. Emergency Position Indicating Radio Beacon (EPIRB).	_____
9. Orange board with a black square over a black circle.	_____
10. "MAYDAY" radio broadcast.	_____
11. Person waving arms.	_____
12. Black square flag flown over a black circle flag.	_____
13. Radio telephone alarm.	_____
14. Radio telegraph alarm.	_____
15. SOS – Morse code signal.	_____
16. Gun fired at intervals of one minute.	_____
17. High intensity white light flashing at intervals of 50 to 70 times per minute.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-08-ANY **Stand a Lookout Watch**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 1, Section C*

b. *Navigation Rules International-Inland*, COMDTINST M16672.2 (series), *Rule 5*

Conditions

Task should be performed at any time, onboard any of the unit's boats. Trainee must report the range and relative bearing of objects identified by the instructor. Trainee must accomplish the task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, identify objects and state relative bearing and range.

Performance Criteria	Completed (Initials)
1. List the different types of buoys and their characteristics in the local area and the purpose of each.	_____
2. Identify three different local fixed aids.	_____
3. Identify and report the range and relative bearing of four different type vessels, common to the local area.	_____
4. Identify and report range and relative bearing to deadhead and/or other floating hazard to navigation.	_____
5. Identify whistle, bell, gong, and/or other local audio aids to navigation.	_____
6. Recognize and report different vessel crossing situations.	_____
7. Recognize and report meeting situations.	_____
8. Recognize and report overtaking situations.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-09-TYPE **Act as a Helmsman and Steer a Compass Course**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section C*

Conditions Task should be performed at any time, onboard any of the unit's boats while underway. Trainee must accomplish the task without prompting or use of a reference.

Standards In response to the coxswain, the trainee must respond, without error, to various helm commands. All courses must be maintained to within five degrees of ordered course.

Performance Criteria	Completed (Initials)	Boat Type
1. Steer on the course ordered by the coxswain.	_____ _____ _____	_____ _____ _____
2. Maintain course to within five degrees of ordered course over a ten-minute staged run.	_____ _____ _____	_____ _____ _____
3. Alter course (at least 35 degrees) to new course on coxswain's command.	_____ _____ _____	_____ _____ _____
4. Steady boat up on new course and hold to within five degrees of ordered course.	_____ _____ _____	_____ _____ _____
5. Monitor engine gauges.	_____ _____ _____	_____ _____ _____
6. Keep careful watch of the surrounding area.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-10-TYPE **Get the Boat Away from a Pier**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section D*

b. Chapman Piloting

Conditions

Task will be performed at any time of day or night in light to moderate winds. The boat may be made fast to either side of the pier or mooring object. All mooring lines must be attached before task is begun. Trainee must accomplish the task without prompting or use of a reference.

Standards

Trainee must perform the task in accordance with the procedures in the listed steps. Any endangering of personnel or boat will cause the task to be secured until further training can be accomplished.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew on procedure to be used and their duties.	_____ _____ _____	_____ _____ _____
2. Remove mooring lines from pier as directed.	_____ _____ _____	_____ _____ _____
3. Clear stern of the boat from the pier.	_____ _____ _____	_____ _____ _____
4. Clear boat of pier.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-11-TYPE **Moor the Boat**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section D*

b. Chapman Piloting

Conditions Task will be performed at any time of the day or night in light to moderate winds. Trainee must accomplish the task without prompting or use of a reference.

Standards Trainee must perform the task in accordance with procedures in the listed steps. Any endangering of personnel or boat will cause the task to be secured until further training can be accomplished.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew on procedure to be used and their duties.	_____ _____ _____	_____ _____ _____
2. Demonstrate checking engine control (*forward* and *reverse* on each engine.)	_____ _____ _____	_____ _____ _____
3. Approach slowly.	_____ _____ _____	_____ _____ _____
4. Apply appropriate power and rudder, use spring line if desired.	_____ _____ _____	_____ _____ _____
5. Bring boat alongside.	_____ _____ _____	_____ _____ _____
6. Secure lines.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-04-12-TYPE **Boat Handling**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section B*

Conditions Task will be performed at any time of the day or night in light to moderate winds. Trainee must accomplish the task without prompting or use of a reference.

Standards Trainee must perform each task to the minimum standards included in each performance step. Any endangering of personnel or boat will cause the task to be secured until further training can be accomplished

Performance Criteria	Completed (Initials)	Boat Type
1. Determine the rudder limits.	_____ _____ _____	_____ _____ _____
2. Check engine control action.	_____ _____ _____	_____ _____ _____
3. Move boat forward in a straight line.	_____ _____ _____	_____ _____ _____
4. Maintain safe speed for trainee's ability and weather conditions.	_____ _____ _____	_____ _____ _____
5. Adjust speed to ensure wake caused no damage or injuries.	_____ _____ _____	_____ _____ _____
6. Turn the boat with the helm.	_____ _____ _____	_____ _____ _____
7. Stop the boat in a safe manner.	_____ _____ _____	_____ _____ _____
8. Hold a course while backing the vessel.	_____ _____ _____	_____ _____ _____
9. Rotate boat about the pivot point.	_____ _____ _____	_____ _____ _____
10. Turn boat with a reduced tactical diameter.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

Section E. Communications

Introduction

The following are objectives of Division Five:

- **Demonstrate** the ability to operate a VHF-FM radiotelephone and the SSB-HF transceiver.
- **Demonstrate** the ability to use the radiotelephone to give a position or operations report.

In this section

This section contains the following tasks:

TASK BCM-05-01-ANY **Operate a VHF-FM Radiotelephone**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 11, Sections A and G*

b. *Radiotelephone Communications Handbook*, COMDTINST 2300.7 (series)

Conditions Task should be performed at any time, onboard one of the unit's boats. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must, without error, identify the different operating parts of the radio and operate the radio.

Performance Criteria	Completed (Initials)
1. Identify VHF-FM transceiver and speakers.	_____
2. Identify breaker that energizes radio.	_____
3. Identify power switch and turn radio on.	_____
4. Identify channel selection switch or buttons for emergency and working frequencies.	_____
5. Identify volume controls and adjust volume.	_____
6. Identify squelch control and adjust to the point where static disappears.	_____
7. Identify microphone and transmitting button and obtain a radio check on appropriate working frequency.	_____
NOTE No radio checks are permitted on the International VHF distress and calling frequency, Channel 16.	

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-05-02-ANY **Operate a SSB-HF Transceiver**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 11*

b. *Radiotelephone Communications Handbook*, COMDTINST M2300.7 (series)

c. SSB-HF Transceiver – Operator's Manual

Conditions Task should be performed at any time, onboard one of the unit's boats with SSB-HF radio onboard. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must, without error, identify the different operating parts of the radio and operate the radio.

Performance Criteria	Completed (Initials)
1. Identify SSB-HF transceiver and speakers.	_____
2. Identify power switch and turn radio on.	_____
3. Identify channel selection switch or buttons and select frequency 2182KHZ.	_____
4. Identify and adjust volume control.	_____
5. Identify and adjust squelch control to just beyond the point where the static disappears.	_____
6. Identify microphone and operating button and demonstrate radio check on appropriate working frequency.	_____
NOTE No radio checks are permitted on the International Medium Frequency (MF) distress and calling frequency 2182KHZ.	

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-05-03-ANY **Use the VHF-FM Radiotelephone to Give a Operations and Position Report**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 11*

b. *Radiotelephone Communications Handbook*, COMDTINST M2300.7 (series)

Conditions

Task should be performed at any time, onboard one of the unit's boats. Message to be sent should be composed by the trainee and the instructor prior to the beginning of the task. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, send a short operations and position report. Task must be accomplished using proper radio telephone procedures, including prowords and phonetic alphabet, in accordance with the above reference.

Performance Criteria	Completed (Initials)
1. Turn on, tune, and set radio to unit's working frequency.	_____
2. Hail station using unit's working frequency.	_____
3. Ensure that channel 16 (emergency frequency) is being monitored at the same time.	_____
4. Send status of operations and position.	_____
5. Sign off using proper prowords at conclusion of the message.	_____

Instructor _____ **Date** _____

Comments _____

_____

Section F. Navigation

Introduction

The following are objectives of Division Six:

- **Demonstrate** the use of a nautical chart.
- **Demonstrate** the ability to identify navigation and general landmark symbols on a nautical chart.
- **Demonstrate** the ability to plan a voyage by laying down a trackline across safe water and through marked channels.
- **Demonstrate** the ability to take a fix and plot a position on a chart.
- **Demonstrate** ability to calculate actual speed of vessel, determine amount of water beneath keel, and recommend adjustments to vessel's course and speed to match voyage plan.

In this section

This section contain the following tasks:

TASK BCM-06-01-ANY **Identify the Symbols, Abbreviations and Basic Parts of a Nautical Chart**

References
a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Sections A and B*

Conditions
Task should be performed ashore, at any time, using a chart of the local area. Trainee must accomplish task without prompting or use of a reference.

Standards
In response to the instructor, the trainee must, without error, identify the different parts of a nautical chart listed in the steps below.

Performance Criteria	Completed (Initials)
1. Identify the longitude scale.	_____
2. Identify the latitude scale.	_____
3. Identify horizontal and vertical clearances of overhead bridges and cables.	_____
4. Identify one nautical mile using the latitude scale.	_____
5. Identify sounding numbers (feet/fathoms).	_____
6. Identify depth curves (contours).	_____
7. Identify the general information block.	_____
8. Identify the scale of a chart.	_____
9. Identify the latitude and longitude in minutes or seconds.	_____
10. Identify different colors and stated meaning of each.	_____
11. Identify the miles and yards scale.	_____
12. Identify aids to navigation.	_____
13. Identify the symbol for prominent local landmarks.	_____
14. Identify the compass rose and indicate the purpose of each of its prominent parts.	_____
15. Identify the symbol for a wreck, rock, or other submerged object.	_____
16. Identify latest changes to the chart determined by Notice to Mariners and Local Notice to Mariners.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-02-ANY **Identify Common Aids to Navigation Used for Inland and Coastal Piloting**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 13*

b. *Nautical Chart Symbols, Abbreviations, and Terms*, Chart No. 1

c. *The American Practical Navigator, Chapter 5*

Conditions

Task should be performed while underway, using a nautical chart of the unit's local operating area. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, identify the stated aids to navigation and their corresponding chart symbols.

Performance Criteria	Completed (Initials)
1. Identify a nun buoy and a can buoy.	_____
2. Identify a preferred channel buoy and state its purpose.	_____
3. Identify a day beacon.	_____
4. Identify an ICW buoy and state its markings. (if applicable)	_____
5. Identify ranges and state their purpose.	_____
6. While underway, identify by type, number, and characteristic the primary aids used for entering and exiting the unit's berths.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-03-ANY **Identify Local Landmarks on a Nautical Chart**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section B*

b. *Nautical Chart Symbols, Abbreviations, and Terms*, Chart No. 1

Conditions

Task should be performed while underway, using a nautical chart of the unit's local operating area. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor pointing out aids to navigation and prominent landmarks, the trainee must, without error, correctly identify on the chart those objects pointed out.

Performance Criteria	Completed (Initials)
1. Identify all major piers and docks in the area.	_____
2. Identify any prominent dangerous submerged, or semi-submerged rocks, shoals and structures.	_____
3. Identify all prominent submerged or partially submerged wrecks in the area.	_____
4. Identify all prominent antennas and towers used as navigational landmarks in the area.	_____
5. Identify all prominent buildings and structures used as navigational landmarks in the area.	_____
6. Identify all prominent landmarks in the area.	_____
7. Identify all bridges and their types in the area.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-04-ANY **Plot a Position Using Latitude and Longitude**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D*

b. *The American Practical Navigator*

Conditions

Trainee shall be given a nautical chart of the local operating area, and five sets of coordinates expressed in longitude and latitude. Trainee must plot the five coordinates without prompting or use of a reference.

Standards

The trainee must, without error, plot the latitude and longitude coordinates within five minutes. Positions must be within 100 yards.

Performance Criteria	Completed (Initials)
1. Plot five different positions on the chart within five minutes.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-05-ANY **Plot a Magnetic Course on a Nautical Chart**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section C*

b. *The American Practical Navigator*

Conditions

Trainee shall be given a nautical chart (scale 1:80,000 or less) of the local operating area, the five positions plotted in task BCM-06-04-ANY, and five magnetic bearings (one bearing for each position). Trainee must accomplish task without prompting or use of a reference.

Standards

The trainee must, without error, plot the courses indicated within five minutes. Courses must be accurate to within three degrees.

Performance Criteria	Completed (Initials)
1. Plot five different courses on the chart.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-06-ANY **Measure Distance on a Nautical Chart**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D*

b. *The American Practical Navigator*

Conditions

Trainee shall be given a nautical chart (scale 1:80,000 or less) of the local operating area and the set of five positions plotted in task BCM-06-04-ANY on the chart (designated A through E). All distances must be measured using nautical miles or yards as indicated by the task steps. Trainee must accomplish task without prompting or use of a reference.

Standards

The trainee must, without error, measure the distances indicated in the task's steps within three minutes. Distance must be accurate to within 200 yards.

Performance Criteria	Completed (Initials)
1. The distance from position A to B is _____ nautical miles.	_____
2. The distance from position B to C is _____ yards.	_____
3. The distance from position C to D is _____ yards.	_____
4. The distance from position D to E is _____ nautical miles.	_____
5. The distance from position E to A is _____ nautical miles.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-07-ANY **Compute Time, Speed, and Distance**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D*

b. *The American Practical Navigator*

Conditions

Trainee shall be given a nautical chart of the local area, a nautical slide rule, and the positions and distance calculated in task BCM-06-06-ANY. All answers should be given to the nearest tenth of an hour, knot, or nautical mile as indicated in the step. Trainee must accomplish task without prompting or use of a reference.

Standards

The trainee must, without error, calculate the answer indicated for each step within five minutes.

NOTE The Nautical Slide Rule may not be used for steps 2 and 5. In step 2 the trainee should also use speeds of 12 kts, 6 kts, and 3 kts to demonstrate the 3-minute/6-minute rules.

Performance Criteria	Completed (Initials)
1. State the 3-minute and 6-minute rules.	_____
2. Calculate the time, in hours, it would take a boat traveling at a speed of 8 knots to get from point A to point B.	_____
3. Calculate the speed, in knots, it would take a boat to get from point B to point C in 30 minutes.	_____
4. Calculate the speed, in knots, it would take a boat to get from point E to point C in 2 hours.	_____
5. Calculate the speed, in knots, it would take a boat to travel 200 yards in 3 minutes.	_____
6. Calculate the distance, in nautical miles, a boat would travel at a speed of 12 knots for 2.4 hours.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-08-ANY **Determine the Depth of Water Using a Fathometer**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D*

Conditions

Task should be performed at any time, while underway, onboard one of the unit's boats. Demonstration should be performed in an area known to have accurate charted soundings. Steps 1 through 3 should be accomplished in water greater than 5 fathoms. Steps 4 and 5 should be accomplished in water less than 30 feet. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, identify different parts of the fathometer and various functions. Soundings should be within 10% (allowing for range of tide) of the charted depth when working in water less than 30 feet. All other soundings should be within 2 fathoms of the charted depth.

Performance Criteria	Completed (Initials)
1. Identify fathometer.	_____
2. Turn on fathometer.	_____
3. Adjust illumination from "Lamp 3 through Off". (High through Off)	_____
4. Demonstrate entering "Offset Setup". Set appropriate depth.	_____
5. Adjust "Display Contrast".	_____
6. State the depth in three different positions. Instructor should fix position and verify readings.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-09-TYPE **Use RADAR to Identify Objects**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D*

b. *The American Practical Navigator*

c. *RADAR Operator's Handbook*

Conditions Task should be performed at any time, while underway, onboard each of the unit's boats. All of the objects listed must be identified using the installed RADAR and a local area chart, and then verified by sight. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must, without error, correctly demonstrate the steps in the task.

Performance Criteria	Completed (Initials)	Boat Type
1. Turn RADAR power switch *on* and allow unit to warm up.	_____ _____ _____	_____ _____ _____
2. Turn RADAR for maximum target return.	_____ _____ _____	_____ _____ _____
3. State the use of "GAIN", "SEA CLUTTER" and "RAIN CLUTTER".	_____ _____ _____	_____ _____ _____
4. Use "GAIN", "SEA CLUTTER" and "RAIN CLUTTER" as necessary.	_____ _____ _____	_____ _____ _____
5. Recognize and visually verify three different prominent landmarks.	_____ _____ _____	_____ _____ _____
6. Recognize and visually verify two different aids to navigation.	_____ _____ _____	_____ _____ _____
7. Recognize and visually verify two different moving targets.	_____ _____ _____	_____ _____ _____
8. Identify a RACON on the RADAR screen. (if applicable)	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-10-TYPE **Determine the Range and Bearing to Objects Using RADAR**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D*

b. *The American Practical Navigator*

c. *RADAR Operator's Handbook*

Conditions

Task should be performed at any time, while underway, onboard each of the unit's boats. Weather should be calm to moderate. All of the steps must be accomplished using the installed radar and a local area chart, and then verified by sight. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, identify the objects and correctly utilize the VRM and EBL functions to complete tasks two and three.

Performance Criteria	Completed (Initials)	Boat Type
1. Turn RADAR *on* and tune for maximum target return.	_____ _____ _____	_____ _____ _____
2. Report the ranges to three different objects.	_____ _____ _____	_____ _____ _____
3. Report the LOPs to three different objects.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-11-TYPE **Use RADAR to Obtain and Interpret Relative Bearings and Ranges to a Moving Target to Determine if Risk of Collision Exists**

References

a. *Knight's Modern Seamanship*

b. *The American Practical Navigator*

c. *RADAR Operator's Handbook*

d. *Navigation Rules International-Inland*, COMDTINST M16672.2 (series)

Conditions

Task should be performed at any time, while underway, onboard each of the unit's boats. Weather should be calm to moderate. All of the steps must be accomplished using the installed radar and verified by sight. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must be able to determine the relative motion of the target within a "reasonable" amount of time and recommend an adjustment to the boat's course to a risk of collision.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify a moving target on the boat's radar.	_____ _____ _____	_____ _____ _____
2. Use the VRM and EBL functions to establish the target range and relative bearing.	_____ _____ _____	_____ _____ _____
3. Determine if the target is in a meeting situation or would be passing ahead or astern of the CG boat by monitoring the range and relative bearing.	_____ _____ _____	_____ _____ _____
4. Recommend course alteration, if necessary, to avoid the other vessel.	_____ _____ _____	_____ _____ _____
5. State the meaning of "Constant Bearing, Decreasing Range".	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-12-TYPE **Operate the VHF-FM Direction Finder and Steer on a Signal**

References

a. Manufacturer's Operating Manual

Conditions

Task should be performed at any time, while underway, onboard one of the unit's boats. Task will require the use of another radio transceiver at a known location. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must demonstrate the use of the FM direction finder. Course should be steered within 5 degrees of the charted LOP.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify direction finder and speakers.	_____ _____ _____	_____ _____ _____
2. Identify *off/on* switch and turn direction finder *on*.	_____ _____ _____	_____ _____ _____
3. Identify front panel indicator and controls.	_____ _____ _____	_____ _____ _____
4. Identify volume control and adjust.	_____ _____ _____	_____ _____ _____
5. Identify squelch control and adjust to just beyond the point where static disappears.	_____ _____ _____	_____ _____ _____
6. Establish communications with another unit using appropriate working frequency.	_____ _____ _____	_____ _____ _____
7. Press the CH key.	_____ _____ _____	_____ _____ _____
8. Enter the appropriate channel using the numerical keypad, then press ENT.	_____ _____ _____	_____ _____ _____
9. State the direction of the signal.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-13-TYPE **Obtain a Fix Using GPS/DGPS**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D*

b. *GPS Operator's Handbook*

c. *The American Practical Navigator*

Conditions Task should be performed at any time, while underway, onboard each of the unit's boats.

Standards In response to the instructor, the trainee must correctly demonstrate the use of the GPS/DGPS receiver.

Performance Criteria	Completed (Initials)	Boat Type
1. Energize set and verify set receiving a signal.	_____ _____ _____	_____ _____ _____
2. Read and report latitude and longitude position to instructor.	_____ _____ _____	_____ _____ _____
3. Plot latitude and longitude position on chart.	_____ _____ _____	_____ _____ _____
4. Demonstrate using "Sailplan" and "Reverse Sailplan" (as applicable).	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-14-ANY **Plot a Position Using LORAN-C TDs**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D*

b. *The American Practical Navigator*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards Trainee must either demonstrate knowledge or perform each task to the minimum standards included in each performance step.

Performance Criteria	Completed (Initials)
1. Describe LORAN-C and its purpose.	_____
2. Explain Time Difference (TD) and how it is used.	_____
3. Use TDs to plot three positions within one-tenth of a nautical mile utilizing the interpolator.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-06-15-ANY **Operate the Electronic Charting System**

References a. *Electronic Charting System Operation Manual*

Conditions Task should be performed at any time, at facilities available to the unit.

Standards Trainee must either demonstrate knowledge or perform each task to the minimum standards included in each performance step.

Performance Criteria	Completed (Initials)
1. Describe the purpose of electronic charting.	_____
2. State the specific features of the electronic charting system.	_____
3. Describe the information provided in the cursor data box.	_____
4. Describe the basic purpose of the soft keys, dedicated keys, and trackpad.	_____
5. Perform the basic procedures for changing the chart scale and displaying information about objects.	_____
6. Complete procedure for using quick routes.	_____

Instructor _____ **Date** _____

Comments _____

_____

Section G. Mission Oriented Operations

Introduction

The following are objectives of Division Seven:

- **Demonstrate** actions to take during a man overboard emergency.
- **Demonstrate** procedures to signal an emergency.
- **Demonstrate** procedures for helo hoist operation.
- **Demonstrate** procedures for towing astern and alongside.
- **Demonstrate** procedures for dewatering another vessel.
- **Demonstrate** procedures to combat a fire onboard own vessel or another vessel.

In this section

This section contains the following tasks:

TASK BCM-07-01-TYPE **Participate in a Man Overboard Evolution as a Pointer**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 16, Section A*

Conditions

Task should be performed during the day and at night, while underway onboard each of the unit's boats. Where possible, this task should be performed with an actual person in the water. When not possible due to weather conditions or water temperature, a life-like dummy, (180 pounds dry) or Oscar must be used. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must move to his/her correct station and perform the task steps without hesitation.

Performance Criteria	Completed (Initials)	Boat Type
1. Keep PIW in sight continuously and sound alarm.	_____ _____ _____	_____ _____ _____
2. Proceed immediately to assigned position.	_____ _____ _____	_____ _____ _____
3. Keep coxswain continuously informed of PIW position both vocally and by pointing.	_____ _____ _____	_____ _____ _____
4. Move to assigned position, upon command, to assist with pickup of PIW.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-02-TYPE **Participate in a Man Overboard Evolution as a Recovery/Pickup Person**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 16, Section A*

Conditions

Task should be performed during the day and at night, while underway onboard each of the unit's boats. Where possible, this task should be performed with an actual person in the water. When not possible due to weather conditions or water temperature, a life-like dummy, (180 pounds dry) Oscar may be used. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must move to his/her correct station and perform the task steps without hesitation.

Performance Criteria	Completed (Initials)	Boat Type
1. Proceed immediately to assigned position (should be lowest point of free board away from screws).	_____ _____ _____	_____ _____ _____
2. Prepare a rescue heaving line, if PIW is conscious.	_____ _____ _____	_____ _____ _____
3. Throw a rescue heaving line to PIW, on command, if PIW is conscious.	_____ _____ _____	_____ _____ _____
4. Pull PIW alongside the boat, if PIW is conscious.	_____ _____ _____	_____ _____ _____
5. Pull the PIW aboard using two persons.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-03-ANY **Participate in a Man Overboard Evolution as a Surface Swimmer**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 16, Section A*

b. *U.S. Coast Guard Addendum to the National Search and Rescue (SAR) Manual*, COMDTINST M16130.2 (series)

c. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

Conditions

Task should be performed during daylight hours in calm sea conditions, while underway onboard one of the unit's boats. This task must be done with a life-like dummy, (180 pounds dry) Oscar in the water. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must perform the task steps without hesitation. Review the policy outlined in references b and c.

NOTE

The intent of this task is to ensure crew member can remove another person from the water. Task may need to be modified, depending upon equipment carried as part of boat outfit.

Performance Criteria	Completed (Initials)
1. State the surface swimmer policy as outlined in the above references.	_____
2. Don necessary rescue equipment/PPE.	_____
3. On command, enter the water feet first.	_____
4. Hold PIW in cross shoulder position, while pulled back to boat by tender.	_____
5. Place PIW in stokes litter (only if person is seriously injured and seas are calm).	_____
6. Assist while PIW hauled onboard.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-04-TYPE **Recover a Person-in-the-Water with the Stokes Litter**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 16, Section A*

b. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

Conditions

Task should be performed during daylight hours, in calm sea conditions, while underway onboard one of the unit's boats. This task must be done with a lifelike dummy (180 pounds), Oscar, or unit personnel in the water. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor the trainee must perform the task steps without hesitation. Review the policy outlined in the *Boat Crew Seamanship Manual* and the *Rescue and Survival Systems Manual*.

NOTE The intent of this task is to ensure crew member can remove another person from the water. Task may need to be modified, depending upon equipment carried as part of the boat outfit.

Performance Criteria	Completed (Initials)	Boat Type
1. Make ready stokes litter manila tending lines and patient securing straps.	_____ _____ _____	_____ _____ _____
2. Place stokes litter in water and tend with assistance of another crew member.	_____ _____ _____	_____ _____ _____
3. Place patient or Oscar in litter and attach all straps in correct order.	_____ _____ _____	_____ _____ _____
4. Assist while patient is hauled onboard (head first).	_____ _____ _____	_____ _____ _____
5. Check the patient to assess their physical condition and give first-aid as needed.	_____ _____ _____	_____ _____ _____
6. Assist in carrying stokes litter with patient from the boat to the shore.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-05-TYPE **Conduct Helo-Ops**

References c. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 19, Section B*

Conditions Task should be performed while underway during daylight hours, in fair weather conditions. All crew members should be wearing gloves, helmets, goggles, PFDs or appropriate exposure gear and boat crew personnel survival vests. Rescue device and/or line must not become entangled or otherwise attached to the boat at any time. Rescue device must be grounded to the boat before crew members handle it. Trainee must accomplish task without prompting or use of a reference.

NOTE If no helicopter training is available, this task may be deferred. Task must be completed at the earliest possible time.

Standards In response to the instructor, the trainee should perform the tasks in accordance with the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
7. Secure loose gear before operations.	_____ _____ _____	_____ _____ _____
8. Ground rescue device using a deadman stick.	_____ _____ _____	_____ _____ _____
9. Bring rescue device onto the boat's deck by hand or by using a tag line.	_____ _____ _____	_____ _____ _____
10. Tend rescue device as it is lifted from boat and hoisted to helicopter.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-06-ANY **Fire the MK-127A1 Parachute Illumination Signal**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section F*

Conditions Task should be performed at night, and at shore or underway. Trainee must accomplish task without prompting or use of a reference.

Standards Trainee must break out, prepare, and launch the MK-127A1 signal.

Performance Criteria	Completed (Initials)
1. Remove signal from its container.	_____
2. Hold signal in left hand with red band facing up.	_____
3. Withdraw firing cap from lower end.	_____
4. Inspect cork sealing disc for looseness. If disc is loose, flare should not be fired.	_____
5. Point ejection end, opposite the red band, away from body and other people or objects.	_____
6. Push firing cap slowly onto primer end until cap is aligned with the lower edge of the red band.	_____
7. Position signal so that firing end is perpendicular to the deck with the firing cap facing downward.	_____
8. Fire signal by striking firing cap bottom with the palm of the right hand.	_____
9. Keep the arm rigid and pointed straight up.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-07-ANY **Bend a Heaving Line to a Bridle and Pass the Heaving Line to Another Boat**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 17, Section D*

Conditions Task should be performed at any time onboard one of the unit's boats. Heaving line used should be at least 75 feet long. The target boat must be at least 40 feet away from the boat at the time of the toss. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must pass the line to the target boat, in accordance with the steps listed below, on two out of three throws. The heaving line should pass over the target boat, but not hit it.

Performance Criteria	Completed (Initials)
1. Wet down heaving line to relieve stiffness.	_____
2. Bend one heaving line onto the bridle eye using a bowline and second onto the throat using a clove hitch with two half hitches, or a snap hook.	_____
3. Make heaving line into tight coils.	_____
4. Place two-thirds of coil in casting hand.	_____
5. Instruct people on other boat to take cover.	_____
6. On command, throw heaving line over the target boat and tend.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-08-TYPE **Pass a Towline to Another Boat**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 17, Section D*

Conditions Task should be performed at any time, onboard any of the unit's boats, while taking another boat in tow. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must, in accordance with the procedures listed below, perform all line handling related to passing a tow line.

Performance Criteria	Completed (Initials)	Boat Type
1. Using heaving lines, pass towline to the boat to be towed.	_____ _____ _____	_____ _____ _____
2. Tend towline while people on other vessel make attachment.	_____ _____ _____	_____ _____ _____
3. Place a proper working turn around the towing bitt and pay out the line, as directed.	_____ _____ _____	_____ _____ _____
4. On command, secure towline to the towing bitt.	_____ _____ _____	_____ _____ _____
5. On command, break towing bitt down to a working turn, pay towline out.	_____ _____ _____	_____ _____ _____
6. On command, make up bitt.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-09-ANY **Connect a Towline to a Trailer Eyebolt Using a Shackle or Skiff Hook**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 17*

Conditions Task should be performed at any time, onboard any of the unit's boats, while taking another boat in tow. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must, in accordance with the procedures listed below, perform all line handling related to connecting a towline to a boat's trailer eyebolt.

Performance Criteria	Completed (Initials)
1. Prepare towing line with skiff hook assembly or shackle attached.	_____
2. Connect towline to eyebolt using skiff hook assembly or shackle, while disabled boat is off either quarter.	_____
3. Tend towline from towing boat with proper working-turn around the tow bitt.	_____
4. On command, secure towline to the tow bitt.	_____
5. On command, break down the tow bitt to a working turn, and pay out towline.	_____
6. On command, make up tow bitt.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-10-TYPE **Secure an Alongside Tow**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 17, Section D*

Conditions

Task should be performed at any time, onboard each of the unit's boats while taking another boat in tow. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without prompting, correctly tend and secure the towline and side lines in accordance with the procedures listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. Rig fenders and set up lines on the side where tow will be secured.	_____ _____ _____	_____ _____ _____
2. If using stern towline, upon command, walk towline forward and fake out excess line on deck, out of the way.	_____ _____ _____	_____ _____ _____
3. If using stern towline, upon command, lead tow line forward and use as the bow line.	_____ _____ _____	_____ _____ _____
4. Secure other lines as directed by the coxswain.	_____ _____ _____	_____ _____ _____
5. Explain the purpose of each line (bow, stern, towing strap, back spring).	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-11-ANY **Prepare the Portable Pump for Operation, Start, and Obtain Suction**

References

a. *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)

b. Dewatering Pump Manufacturer's Instructions

Conditions

Task should be performed at any time, ashore or onboard one of the unit's boats. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, prepare and start the pump in accordance with the procedures listed below. The pump must take suction in order for this task to be considered successful.

Performance Criteria	Completed (Initials)
1. Open and remove pump from pump can.	_____
2. Check oil. Fill if needed.	_____
3. Mount and connect fuel tank (if applicable).	_____
4. Connect and unroll discharge hose.	_____
5. Connect suction hose.	_____
6. Place suction hose strainer in water.	_____
7. Prime pump.	_____
8. Start pump engine within six pulls.	_____
9. Take suction and discharge water from the pump.	_____
10. Drain, flush out with freshwater, clean up and secure pump.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-12-ANY **Assist in Passing a Portable Pump Directly to Another Boat**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Section I*

Conditions

Task should be performed at any time, onboard one of the unit's boats, acting as a member of a two-man team. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must demonstrate passing the pump in accordance with the procedures listed below.

Performance Criteria	Completed (Initials)
1. Attach mooring line to pump can handle.	_____
2. Secure heaving line to mooring line using bowline or double becket bend.	_____
3. Attach mooring line to other handle.	_____
4. Pass heaving line to other boat.	_____
5. Tend pump can using mooring line while people on other boat haul it in (lines never allowed to lay slack in the water around the boats).	_____

Instructor _____ **Date** _____

Comments _____

_____

_____

TASK BCM-07-13-TYPE **Rig and Operate an Eductor to Obtain Suction**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Section I*

Conditions Task should be performed at any time, pierside or underway, on each of the boats carrying eductor equipment. Task should be performed using the installed pump onboard the boat. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must prepare the eductor and put it into operation in accordance with the procedures listed below. The eductor must take suction in order for this task to be considered successful.

Performance Criteria	Completed (Initials)	Boat Type
1. Connect eductor supply hose to pump outlet using 25-foot length of hose.	_____ _____ _____	_____ _____ _____
2. Connect 1 ½ - inch supply hose to the eductor.	_____ _____ _____	_____ _____ _____
3. Connect 2 ½ - inch discharge hose to the eductor.	_____ _____ _____	_____ _____ _____
4. Submerge eductor in the water to be pumped.	_____ _____ _____	_____ _____ _____
5. Engage pump engine.	_____ _____ _____	_____ _____ _____
6. Observe suction and discharge water through the eductor. Ensure discharge flowing overboard.	_____ _____ _____	_____ _____ _____
7. Secure pump.	_____ _____ _____	_____ _____ _____
8. Drain, flush out with freshwater, clean up and secure pump.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-14-ANY **Identify the Different Classes of Fires, State the Fuel Sources, and State the Extinguishing Agents for Each Class of Fire**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Sections C and D*

Conditions

Task should be performed at any time onboard one of the unit's boats. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error state, the answers called for in the steps below.

Performance Criteria	Completed (Initials)
1. State most common fuels for Class A fires, and state the primary extinguishing agent for a Class A fire.	_____
2. State most common fuels for Class B fires, and state the primary extinguishing agent for a Class B fire.	_____
3. State most common source for Class C fires, and state the primary extinguishing agent for a Class C fire.	_____
4. State most common fuels for Class D fires, and state the primary agents for containing a Class D fire.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-15-TYPE **Locate and Identify the Fire Fighting Equipment Carried Onboard the Boat**

References b. Boat outfit or daily check-off list for the boat

Conditions Task should be performed at any time, onboard the type boat being qualified on. Only those items carried on the boat need to be identified. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must identify all of the fire fighting equipment carried on the boat, and state the purpose of each piece.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify and state the purpose of the installed fire pump and controls.	_____ _____ _____	_____ _____ _____
2. Identify and state the purpose of the portable fire pump(s).	_____ _____ _____	_____ _____ _____
3. Identify and state the purpose of all fire hoses.	_____ _____ _____	_____ _____ _____
4. Identify and state the purpose and capabilities of the nozzle.	_____ _____ _____	_____ _____ _____
5. Identify and state the purpose of all tri-gates and hose fittings.	_____ _____ _____	_____ _____ _____
6. Identify and state the purpose of the fire monitor and controls.	_____ _____ _____	_____ _____ _____
7. Identify and state the purpose of all spanner wrenches.	_____ _____ _____	_____ _____ _____
8. Identify and state the purpose of the fixed extinguishing system.	_____ _____ _____	_____ _____ _____
9. Identify and state the purpose of all CO_2 fire extinguishers.	_____ _____ _____	_____ _____ _____
10. Identify and state the purpose of all dry chemical extinguishers.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-16-ANY **Demonstrate Knowledge of the Operation of a CO_2 Fire Extinguisher**

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18*

Conditions Task should be performed at any time, ashore or afloat. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must demonstrate the use of a CO_2 fire extinguisher in accordance with the guidelines listed below.

Performance Criteria	Completed (Initials)
1. Carry extinguisher in upright position.	_____
2. Identify the locking pin and explain its removal from the valve.	_____
3. Ground cylinder by placing it on deck.	_____
4. Point horn at target and explain how to activate the extinguisher.	_____
5. Direct CO_2 at the base of the fire (simulate).	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-17-ANY	**Demonstrate Knowledge of the Operation of a Dry Chemical Fire Extinguisher**
References	b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18*
Conditions	Task should be performed at any time, ashore or afloat. Trainee must accomplish task without prompting or use of a reference.
Standards	In response to the instructor, the trainee must demonstrate the use of a dry chemical fire extinguisher in accordance with the guidelines listed below.

Performance Criteria	Completed (Initials)
1. Check fill cap for tightness.	_____
2. Identify and explain removal of the locking pin from the cutter assembly.	_____
3. Explain how puncture lever is pushed down, and why this is done.	_____
4. Approach fire from the windward side.	_____
5. Remain at least 8 feet from the fire.	_____
6. Point extinguisher at base of fire, explain discharge procedure.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-18-TYPE **Assemble Equipment for the Boat's Main Fire Fighting System**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Section F*

Conditions

Task should be performed at any time, acting as a member of a team, onboard the specified boat type. Only those steps applicable to the boat type need to be accomplished. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must correctly connect those pieces of equipment necessary to use the boat's fire fighting equipment for fighting a fire. Demonstration should be completed within 15 minutes.

Performance Criteria	Completed (Initials)	Boat Type
1. Mount fire monitor, if applicable.	_____ _____ _____	_____ _____ _____
2. Connect tri-gate to the firemain.	_____ _____ _____	_____ _____ _____
3. Connect fire monitor to tri-gate with 2½-inch x 30-foot hose.	_____ _____ _____	_____ _____ _____
4. Connect 1½-inch hose to tri-gate and attach vari-nozzle.	_____ _____ _____	_____ _____ _____
5. Place correct gates of the tri-gate in *open* position.	_____ _____ _____	_____ _____ _____
6. Charge fire hose.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-19-TYPE **Engage the Boat's Main Fire Pump**

References

a. Boat Type Operator's Handbook

Conditions

Task should be performed at any time, onboard the specific boat type. Task need only be done for those boats with an installed fire fighting system, or a semi-attached portable pump used for fire fighting. Only those steps applicable to the boat type should be done. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must correctly demonstrate the use of the boat's fire pump in accordance with the guidelines listed below. Task must be completed within ten minutes.

Performance Criteria	Completed (Initials)	Boat Type
1. Place engine in *neutral*.	_____ _____ _____	_____ _____ _____
2. Open firemain sea suction valve.	_____ _____ _____	_____ _____ _____
3. Energize fire pump.	_____ _____ _____	_____ _____ _____
4. Break out and rig portable pump.	_____ _____ _____	_____ _____ _____
5. Connect all gates and hoses.	_____ _____ _____	_____ _____ _____
6. Open discharge valve.	_____ _____ _____	_____ _____ _____
7. Open air vent valve.	_____ _____ _____	_____ _____ _____
8. Start pump engine (if separate).	_____ _____ _____	_____ _____ _____
9. Engage and charge system.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-20-ANY **Operate a Vari-Nozzle**

References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Section F*

Conditions

Task should be performed at any time, onboard any of the unit's boats. Hose should be charged and water discharged. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must demonstrate the use of the vari-nozzle in accordance with the guidelines listed below. Task should be completed within five minutes.

Performance Criteria	Completed (Initials)
1. Connect nozzle to 1½-inch hose.	_____
2. Man nozzle and open nozzle.	_____
3. Demonstrate wide-angle fog.	_____
4. Demonstrate narrow angle fog (power cone).	_____
5. Demonstrate straight stream.	_____
6. Demonstrate flush feature.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-21-TYPE **Demonstrate Knowledge of the Procedures to Combat a Fire in the Engine Space**

References a. Boat Type Operator's Handbook

Conditions Task should be performed at any time, acting as a member of a team, onboard each specific boat type. Trainee must accomplish task without prompting or use of a reference.

Standards In response to the instructor, the trainee must demonstrate the use of the main fire extinguishing system and the procedures for fighting engine space fires in accordance with the guidelines listed below. The demonstration must be accomplished in five minutes or less.

Performance Criteria	Completed (Initials)	Boat Type
1. Sound alarm to other crew members by shouting: "FIRE, FIRE, FIRE."	_____ _____ _____	_____ _____ _____
2. Secure engines.	_____ _____ _____	_____ _____ _____
3. Secure air supply to engine space (if possible).	_____ _____ _____	_____ _____ _____
4. Simulate and explain activating fixed fire fighting system, if available.	_____ _____ _____	_____ _____ _____
5. Aim fire extinguisher, if used, at base of the fire simulating fighting the fire.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BCM-07-22-TYPE **Demonstrate the Appropriate Response to the Basic Engineering Casualty Control Exercises (BECCE)**

References

a. *Coast Guard Boat Readiness and Standardization Program Manual*, COMDTINST M16114.24 (series)

b. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8, Section E*

c. Manufacturers Operator's Manual and Technical Publication

Conditions

Task should be performed at any time onboard each of the unit's boats, including non-standard boats, without the use of any references or prompting.

Standards

In response to the instructor, the trainee must, without error, demonstrate the steps taken for each of the BECCEs listed, as stated in the above reference.

Performance Criteria	Completed (Initials)	Boat Type
1. Fire in the engine room.	_____ _____ _____	_____ _____ _____
2. Loss of steering. (cable/hydraulic)	_____ _____ _____	_____ _____ _____
3. Loss of steering. (jammed rudder)	_____ _____ _____	_____ _____ _____
4. Accidental grounding.	_____ _____ _____	_____ _____ _____
5. Collision with submerged object.	_____ _____ _____	_____ _____ _____
6. Reduction gear failure.	_____ _____ _____	_____ _____ _____
7. Main engine high water temperature.	_____ _____ _____	_____ _____ _____
8. Loss of main engine lube oil pressure.	_____ _____ _____	_____ _____ _____
9. Loss of fuel oil pressure.	_____ _____ _____	_____ _____ _____
10. Loss of control of engine RPM.	_____ _____ _____	_____ _____ _____
11. General starting difficulties, including engine not starting and emergency starting procedures.	_____ _____ _____	_____ _____ _____
12. Cooling system casualties.	_____ _____ _____	_____ _____ _____
13. Propeller damage and excessive cavitation.	_____ _____ _____	_____ _____ _____
14. Immersed outboard.	_____ _____ _____	_____ _____ _____
15. Loss of electrical power.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

_____

Chapter 3
Crew Member Trainee Study Guide

Introduction

This chapter should be removed and given to the trainee to keep. Its purpose is to provide guidance for the trainee's reading assignments and is not a part of the training record.

The trainee should read the appropriate reading assignment and answer the related questions prior to beginning training in each new task. The instructor should then discuss the trainee's answers to ensure understanding of the subject matter prior to beginning instruction for each new task.

In this chapter

This chapter contains the following sections:

Section A. Reading Assignments - Division One

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BCM-01-01-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5, (series) *Chapter 3, Section B*	3-5
BCM-01-02-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 3, Section C*	3-6
BCM-01-03-ANY	• None assigned	

TASK BCM-01-01-ANY: Crew Fatigue

1. Mental and physical fatigue is among the _____ during rough weather operations.
2. The primary symptoms of fatigue are:
   a.
   b.
   c.
   d.
   e.
   f.
3. Some preventive measures are:
   a.
   b.
   c.
   d.
   e.
   f.
4. Some other environmental conditions that also promote fatigue are:
   a.
   b.
   c.
   d.

TASK BCM-01-02-ANY: Motion Sickness

1. Motion sickness occurs when there is an imbalance between _____images and the portion of the _____which senses motion.
2. Reading chart work, or other tasks that require close attention, will _____motion sickness.
3. *Antimotion Sickness Medications*, COMDTINST M6710.15 (series), restricts medication use. Specifically, it must not be given under the following circumstances:

   a.

   b.

   c.

Section B. Reading Assignments - Division Two

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BCM-02-01-ANY	• None Assigned	
BCM-02-02-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 5*	3-9
BCM-02-03-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 5*	3-10
BCM-02-04-ANY	• *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series). *Chapter 3*	3-10
BCM-02-05-ANY	• *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*	3-10
BCM-02-06-ANY	• *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*	3-11
BCM-02-07-ANY	• *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*	3-11
BCM-02-08-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section D* • *Rescue and Survival Manual*, COMDTINST M10470.10 (series), *Chapter 3*	3-11
BCM-02-09-ANY	• None assigned	
BCM-02-10-ANY	• None assigned	
BCM-02-11-ANY	• None assigned	
BCM-02-12-ANY	• None assigned	
BCM-02-13-ANY	• *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*	3-12
BCM-02-14-ANY	• *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 4*	3-12

Task Number	Reading Assignment	See Page
BCM-02-15-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section G* • *Rescue and Survival Manual*, COMDTINST M10470.10 (series), *Chapter 5, Section B*	3-12
BCM-02-16-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section H*	3-13
BCM-02-17-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series) • *Team Coordination Training*, COMDTINST 1541.1 (series) • *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Chapter 3*	3-13
BCM-02-18-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series) • *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series), *Table 3-1*	3-14

TASK BCM-02-02-ANY: Crew First-Aid Responsibility

1. What are dressings and bandages used for?

2. What is the first step in caring for bleeding wounds?

3. What should you do if you think a victim has serious internal bleeding?

4. What should you do for someone who is suffering from a heat-related illness?

5. What should you do if you find someone with a piece of glass sticking out of their arm?

6. Why should you cover burns with a clean or sterile dressing?

TASK BCM-02-03-ANY: Demonstrate Adult, Child, and Infant CPR

1. In a life-threatening situation, which is the most important thing you can do to help?

2. What is a signal of breathing difficulty?

3. What should you do to determine whether or not a victim requires rescue breathing?

4. What should you do for a conscious adult who is choking and cannot cough?

5. When should you stop CPR?

6. One cycle of CPR for an adult includes ____ compressions and ____ breath(s).
7. Where on an adult victim should you feel for a pulse?

8. Where do you check for a pulse on an infant?

9. How often should you give rescue breaths to a child who is not breathing, but does have a pulse?

10. One cycle of CPR for a child includes ____ compressions and _____ breath(s).

TASK BCM-02-04-ANY: Don the Type III PFD

1. The Type III PFD is normally worn aboard boats when _____ _____ _____ is required.
2. True or False. The Type III PFD will turn a crew member face up if they fall overboard and are rendered unconscious.
3. The Type III PFD has a tendency to _____ _____ on the wearer in the water.

TASK BCM-02-05-ANY: Don the Type III Flotation Jacket

1. The waist straps on the Type III flotation jacket should be adjusted to a _____ _____ before entering the water.
2. The Type III flotation jacket has _____ flotation characteristics.
3. True or False. Zippers on the Type III flotation jacket should be open before entering the water to create air pockets for additional flotation.

TASK BCM-02-06-ANY: Don Anti-Exposure Coveralls

1. True or False. Wearing a Type I or III PFD over an anti-exposure coverall may be dangerous in certain situations.
2. The anti-exposure coveralls have straps located at the _____, _____, _____ and _____ which should be tightened before entering the water.
3. The anti-exposure coveralls is ideal for cold weather operations with _____ cockpit boats.

TASK BCM-02-07-ANY: Don the Boat Crew Dry Suit

1. The dry suit shall be worn in _____ cockpit boats when the water temperature is below _____ °F and the air temperature is below _____ °F.
2. The dry suit has watertight seals at the _____, _____ and _____.
3. To afford the maximum protection from hypothermia, the dry suit must be worn with the _____ _____.
4. True or False. The dry suit must never be worn over regular clothing.
5. A _ _ _ must be worn over a dry suit at all times.

TASK BCM-02-08-ANY: Identify Boat Crew Survival Vest Equipment

1. The boat crew survival vest was designed to aid personnel to _____ in hazardous situations.
2. The survival knife is used to _____ yourself if you become entangled.
3. The emergency signaling mirror is used to attract the attention of passing _____, _____ or boats.
4. Reflected light from the emergency signal mirror can be seen at a _____ from the point of origin.
5. It does this by _____ light at them.
6. To use the mirror, you should face a point about _____ between the sun and the object you wish to signal.
7. The night end of the MK-124 smoke and illumination signal produces a _____.
8. The day end of the signal produces _____ smoke.
9. Two prominent bands around the circumference identify the _____ end.
10. After the seal has been broken, the signal is activated by a pull on the _____.
11. The signal should be held downwind and overhead at a _____-degree angle _____ flame.
12. The signal in the MK-79 kit can be fired to an altitude of 250 feet to _____ feet.
13. The second step in preparing the signal for launching is to move the _____ screw into the safety slot.
14. The protective tab should be bent _____ from the signal.
15. The signal should be mated to projector and rotated _____ until the signal is seated.
16. When firing, the arm should be extended _____.
17. Spent signals or misfires should be _____ overboard.
18. The SDU-5/E or CG-1 strobe light emits a high _____ visual distress signal visible for great distances.
19. The light is intended to omit approximately ____ - ____ flashes per minute.
20. If the light, with a new battery, does not operate within limits, _____ the light from service.

TASK BCM-02-13-ANY: Don the Boat Crew Survival Vest

1. The Type III PFD is normally worn when the water temperature is greater than_____ °F.
2. The Type III PFD has a minimum of _____ pounds of buoyancy.
3. The flotation jacket provides a minimum of _____pounds of buoyancy.
4. True or False. The flotation jacket provides minimal protection against hypothermia.
5. The flotation characteristics of the anti-exposure coveralls is similar to those of a Type _____PFD.
6. The anti-exposure coveralls have an orally inflated _____for better flotation angle.
7. True or False. The anti-exposure coveralls are the same as a dry suit.
8. True or False. The Boat Crew Survival Vest should only be worn under a PFD.

TASK BCM-02-14-ANY: Don the Inflatable PFD

1. The inflatable type PFD uses_____ as the inflating agent.
2. True or False. The inflatable type PFD should be inflated before entering the water.
3. The inflatable type PFD will probably have a _____ and _____ attached to it.
4. To maintain the buoyancy of the inflatable PFD, an _____ _____ tube is provided.

TASK BCM-02-15-TYPE: Explain the Manual Deployment and Boarding Procedures for the Rescue and Survival Raft

1. The raft may be inflated either _____ or automatically.
2. The raft may be inflated manually by completely pulling the _____ line from the raft container.
3. The raft should be considered as a means of _____ persons stranded in areas where a boat cannot go.
4. If practical, the raft should be _____ directly from the boat - avoid entering the _____.
5. After boarding the raft, you should try to remain in the same general area as the _____.
6. Food and water should be _____.

TASK BCM-02-16-TYPE: List Survival Procedures in Event of Boat Capsize

1. While capsizing, personnel should _____ something sturdy.
2. If trapped in or under a boat, personnel should seek out an _____ near the _____.
3. Before attempting to escape, an inventory should be made of all _____ that might be taken along.
4. Because air will eventually leak or run out, every effort should be made to _____.
5. Sometimes it is necessary to _____ your PFD in order to exit. If necessary, it should be attached to a _____ so it can be _____ after exiting.
6. If the engines are still running, you should _____ the stern.
7. When trapped in an open cockpit, you should exit by swimming _____ the gunwales and _____ alongside the boat.
8. If trapped in an enclosed cabin, you must remember that all exits are _____ when the boat capsizes.
9. If line is available, the _____ swimmer should exit first taking an end of the line with him/her.
10. If no line is available, the _____ swimmer should go out first, followed by the _____ swimmers, and lastly by a _____ swimmer.
11. When free, the first swimmer out should contact the people inside by _____.

TASK BCM-02-17-ANY: Open Water Survival Skills

1. State the four types of hypothermia clothing used by the Coast Guard.
   a.
   b.
   c.
   d.
2. _____ clothing robs the body of heat by breaking down the thermal protection of insulated clothing.
3. If a dry suit is worn, boat crew members must wear a _____ at all times.
4. The anti-exposure coveralls are Type _____PFD.
5. True or False. If possible, board the life raft from the sinking vessel to avoid entering the water.
6. The length of time a person can stay alive in cold water depends on three factors. What are these three factors ?
7. True or False. It is best to climb on an overturned boat hull from the windward side.
8. If a Coast Guard boat is greater than _____feet, it will normally carry a survival raft.
9. If trapped under an inverted boat, seek out an _____ _____ near the top.
10. True or False. When swimming out from under an inverted boat, a PFD should be worn at all times.

TASK BCM-02-18-ANY: Perform Water Survival Exercise

1. The bright light spot on the signal mirror is used to _____ the mirror.
2. Where can directions for use of the signal mirror be easily found ?
3. The use of a whistle is especially helpful to rescuers during periods of _____ _____.
4. A signal whistle's audible sound may be heard up to _____ yards.
5. The MK-124 day/night pyrotechnic device produces_____ colored smoke for daytime conditions and _____ colored flare as a night signal.
6. Each end of the MK-124 will burn for about _____ seconds.
7. In the dark, the night end of the MK-124 is identifiable by _____ on the night end.
8. The MK-79 signal kit Each contains _____ cartridge type aerial flares and _____ pencil type projector.
9. The aerial flares in the MK-79 signal kit can attain an altitude of _____ to _____ feet and remain illuminated for about _____ seconds.
10. The strobe light is designed to emit about _____ flashes per minute and is capable of flashing _____ hours if used continuously.
11. Define the acronym HELP in regards to water survival.
12. True or False. Swimming in cold water will warm you up and increase your chances for survival.

Section C. Reading Assignments - Division Three

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BCM-03-01-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8, Section A*	3-17
BCM-03-02-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8, Section D*	3-17
BCM-03-03-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8*	3-18
BCM-03-04-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 8*	3-18
BCM-03-05-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 9, Section B*	3-19
BCM-03-06-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 7, Sections A and D*	3-19
BCM-03-07-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 7, Section D*	3-19
BCM-03-08-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 7, Section E*	3-19

TASK BCM-03-01-ANY: State Common Boat Nomenclature and Terminology

1. The front end of the boat is the _____.
2. When proceeding toward the bow, you are going _____.
3. The right side of the bow is the _____ bow.
4. The central or middle area of the boat is _____.
5. The left center side of the boat is the _____ _____.
6. The rear of the boat is the _____.
7. The left rear section of the boat is the port _____.
8. A line running from one side of the boat to the other is said to be _____.
9. From the center line toward either side is referred to as _____.
10. From either side toward the centerline is called _____.
11. The side of the boat against a dock is also called _____.
12. If you go down inside the boat, you are going _____.
13. If you are up into the rigging of the boat, you are going _____.

TASK BCM-03-02-TYPE: Locate and Identify the Purpose of the Equipment Aboard the Boat

1. A _____ is used to allow the anchor line to spin freely.
2. 75' and 100' _____ _____ are used for passing the towline when maneuverability is restricted.
3. A _____ is used to attach a towline to a trailer eyebolt on small boats.
4. When securing chafing gear to a line, you should use _____.
5. Ring _____ are used during man overboard emergencies.

TASK BCM-03-03-TYPE: Boat Characteristics – Boat Construction

1. The three basic types of hull forms based on vessel speed are _____, _____, and semi-displacement.
2. A displacement hull boat pushes away (displaces) water allowing the _____ to _____ _____ into the water.
3. Heavy displacement hulls cannot exceed a speed of _____ times the _____ _____ of their waterline length without requiring excessive power.
4. Once "on top," the _____ _____ skims along the _____ of the water, whereas the displacement hull always forces water around it.
5. The semi-displacement hull is a combination of characteristics of the _____ hull and the _____ hull. Many _____ _____ boats are this type.
6. The _____ is the backbone of the boat.
7. _____ are attached to the keel, which extend athwartships. The _____ of the boat is attached to the frames.
8. _____ _____ controls the direction of the boat and may vary widely in size, design, and method of construction.
9. The three rudder types are _____, _____, and _____.
10. _____ is the distance a propeller advances in _____ revolution with no slip.
11. _____ frames provide hull strength along the _____ of the hull.
12. A _____ is a seagoing floor and provides strength to the _____by reinforcing the transverse _____ and deck beams.
13. If decks are seagoing floors, then hatches are seagoing _____.
14. _____ are small openings.
15. Watertight doors are designed to resist as much _____ as the _____ through which they provide access.

TASK BCM-03-04-TYPE: Boat Characteristics – Watertight Integrity

1. _____doors are designed to resist as much pressure as the bulkheads through which they provide access.
2. If _____ are seagoing floors, then _____ are seagoing doors.
3. Watertight closures must have clean, bright, unpainted, smooth _____ for gaskets to press against.
4. Scuttles must be secured for _____ at all times except when they are open for inspection, cleaning, or painting.
5. The interior of a boat is compartmentalized into bulkheads, decks, and hatches. The hatches are actually "doors" though the bulkheads. With the hatches closed, the space between them becomes watertight and is called a _____.

TASK BCM-03-05-TYPE: Stability

1. The tendency to remain upright is its (the vessel's) _____.
2. _____ and _____ are the two primary forces acting upon a floating vessel that affect stability.
3. The _____is the point at which the weight of the boat acts vertically downwards.
4. The _____is the upward force of water displaced by the hull.
5. When a boat is at rest, the center of buoyancy acting upward/vertically is below the center of gravity acting downwards. A boat is considered to be in _____.
6. A boat has two principal types of stability: _____ and _____.
7. The two principal forces that affect stability are _____ and _____forces.
8. General vessel design features that influence stability include:

   a.

   b.

TASK BCM-03-06-ANY: Identify the Different Parts of a Line and Hitches Used in Line Handling

1. The running or free end of a line is called the _____ _____.
2. The long, unused, or belayed end is called the _____ _____.
3. An overhang loop is made by crossing the _____ _____ over the standing part.
4. A bight is a _____ _____ formed by turning the line back on itself.
5. A _____ is a single turn and a _____ _____ is two complete turns around an object.

TASK BCM-03-07-ANY: Tie Various Knots, Hitches, and Bends

1. The advantage of a bowline is that it does not _____.
2. The best all-around hitch for securing a line to a ring, spar, or other round or near round object is the _____.
3. Timber hitches are used to secure a line to logs, planks, or other _____ objects.
4. _____ are used to lengthen one line by bending one to another.

TASK BCM-03-08-ANY: Secure Lines to Cleats, Bitts, and Posts

1. Deck fittings permit easy handling of lines and reduce _____ and friction on lines.
2. When securing a line to a cleat, bitt, or post, you should first take a _____ _____ around the deck fitting.
3. You should finish securing the line by forming several figure _____ and securing them with a half _____ over each horn.
4. To facilitate speed and safety, the dipping the _____ method should be used when two mooring lines have to be placed on the same cleat.

Section D. Reading Assignments - Division Four

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BCM-04-01-ANY	• *Boat Crew Seamanship Manual,* COMDTINST M16114.5 (series), *Chapter 17, Section C*	3-23
BCM-04-02-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section D* • *Chapman Piloting, 61st edition, Pages 200-201*	3-23
BCM-04-03-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section H*	3-23
BCM-04-04-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section H*	3-23
BCM-04-05-ANY	• *Navigation Rules International-Inland*, COMDTINST M16672.2 (series), *Part C* • *Chapman Piloting, 61st Edition, Chapter 7*	3-24
BCM-04-06-ANY	• *Navigation Rules International-Inland*, COMDTINST M16672.2 (series), *Part D* • *Chapman Piloting, 61st Edition, Chapter 6*	3-24
BCM-04-07-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 11, Section F* • *Navigation Rules International-Inland*, COMDTINST M16672.2 (series), *Rule 37*	3-25
BCM-04-08-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 1, Section C* • *Navigation Rules International-Inland,* COMDTINST M16672.2 (series), *Rule 5*	3-25
BCM-04-09-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 1, Section C*, and *Chapter 14, Section C*	3-25

BCM-04-10-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section D* • *Chapman Piloting, 61st Edition, Page 207*	3-26
BCM-04-11-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Section D*	3-26
BCM-04-12-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 10, Sections A and B*	3-27

TASK BCM-04-01-ANY: Rig Fenders to Side of the Boat

1. When docking or taking another boat alongside, you should always rig fenders to prevent _____ damage.
2. Fenders should be adjusted to cushion points of _____.
3. Fenders should be secured using a _____ _____ or _____ _____.
4. Fenders should be secured to a stanchion, a _____ _____, bitt, or cleat.

TASK BCM-04-02-TYPE: Make Fast a Boat to a Pier

1. All fenders should be rigged and _____ _____ should be broken out and ready before reaching the dock.
2. The _____ of the mooring line should be secured to the dock before the bitter end is fixed to the boat cleat.
3. Normally the after _____ spring line is secured first.
4. The order in which the lines are attached depends on the _____ evaluation of the situation.

TASK BCM-04-03-TYPE: Assist in Anchoring the Boat

1. Most Coast Guard boats use a _____ type anchor.
2. The _____ of the anchor are the parts that dig into the bottom to provide holding power.
3. The anchor line, or chafing chain, is secured to the _____.
4. A _____ is used to attach the chain so that the anchor line can spin freely.
5. Never stand in the _____ of an anchor line.
6. The anchor line should be tended directly from the _____ locker if possible.
7. The anchor should be _____ over the side, never _____.
8. The anchor line should always form an angle of _____ or less with the bottom.

TASK BCM-04-04-TYPE: Assist in Weighing the Boat's Anchor

1. Slack in the anchor line should be _____ as the boat is moved ahead.
2. As the line is brought aboard, it should be faked on deck or stowed below _____.
3. If the anchor refuses to break free, the line should be _____ around the forward bitt while the coxswain moves ahead a few feet to break it free.

TASK BCM-04-05-ANY: Identify the Common Navigation Lights Displayed by Ships and Boats

1. The purpose of navigational lights is to _____ vessels of the presence or approach of another vessel.
2. Navigational lights also aid in determining the _____ of the vessel.
3. Lights must be used from _____ to _____ and in times of restricted visibility.
4. A green sidelight means you are looking at a vessel's _____ side.
5. A red sidelight means you are looking at a vessel's _____ side.
6. If you see both a red and green sidelight, it means you are looking at the vessel _____.
7. A power-driven vessel 50 meters or more in length must display red and _____ sidelights, a masthead light, a stern light, and a _____ light.
8. A power-driven vessel less than 50 meters in length must display red and _____ sidelights, a masthead light, and a _____ light.
9. A power-driven vessel less than 7 meters and whose maximum speed does not exceed 7 knots only has to show an _____ _____ light.
10. Sailing vessels less than 12 meters (international) or 20 meters (inland) in length must display red and green sidelights, or a red and green _____ light, along with a stern light.
11. On sailboats and rowboats less than 7 meters in length, if regular running lights are unavailable, they may display _____ or torch.

TASK BCM-04-06-ANY: Identify the Common Sound Signals Used by Ships and Boats

1. A short blast is a blast of about _____ second(s) duration.
2. A prolonged blast is from _____ to _____ seconds in duration.
3. Vessels 12 meters in length or more must carry a _____ along with a whistle.
4. If you hear a gong, you know the vessel is at least _____ meters long.
5. Vessels under 12 meters in length are required to _____.
6. A power-driven vessel underway in conditions of reduced visibility sounds _____.
7. Sailing vessels during periods of reduced visibility sound _____.
8. Bells and gongs are used by vessels that are _____.

TASK BCM-04-07-ANY: Identify and Describe Accepted Maritime Distress Signals

1. MAYDAY, MAYDAY, MAYDAY is the_____ priority of urgency call.
2. A gun fired at intervals of about _____ minute(s) may be used as an emergency signal.
3. Rockets, shells, or flares should be of a _____ color to indicate an emergency.
4. A square flag above a _____ _____ also can be a distress signal.
5. Two _____ lights in a _____ line may be used to indicate that a vessel is broken down.
6. Slowly _____ and _____ outstretched arms indicates an emergency.
7. The signal ···---··· means_____ _____ _____ and indicates an _____ situation.

TASK BCM-04-08-ANY: Stand a Lookout Watch

1. It is the lookout's job to report everything _____ or _____ to the boat coxswain.
2. When making reports, the lookout should first _____ the object and than give the direction in _____ _____ to the object.
3. Lookouts should always remain at their station until _____
4. If a report to the coxswain is not acknowledged, it should be _____.
5. When looking for a person or object in the water, a _____ scanning technique should be used.
6. Dark adaptation requires _____ or more, but may be destroyed in less than _____.

TASK BCM-04-09-TYPE: Act as a Helmsman and Steer a Compass Course

1. The arc of the compass card is divided into _____ degrees.
2. A reading of 000 degrees on the compass card should point toward _____ North.
3. The _____ _____ is in line with the boat's centerline and indicates the boat's _____.
4. To ensure understanding, the helmsman should always _____ all orders given to him/her by the coxswain.
5. The helmsman should attempt to maintain a course within _____ degrees.
6. The helmsman should not execute any orders unless _____ by the coxswain.

TASK BCM-04-10-TYPE: Get the Boat Away From a Pier

Single-Screw Boats

1. While leaving a pier, when in the clear, the coxswain moves ahead, and applies right or left rudder _____.
2. The pivot point is normally _____ of the way aft of the bow.
3. When clearing a pier, against a current, the coxswain should go ahead slowly, then put the rudder over toward the _____.
4. When the stern is clear, the bow _____ should be cast off and the coxswain should shift the rudder and back away.

Twin-Screw Boats

5. The screws are arranged so that the top of each blade moves _____ _____.
6. The starboard screw is right-handed and the port screw is _____-handed.
7. With the starboard screw astern and the port screw stopped, the stern of the boat will move to _____.
8. With the starboard screw ahead and the port screw astern, the boat will _____ in a leftward direction.
9. When clearing a pier, port side to, against the wind or current, the coxswain should go ahead on the _____ engine and astern on the _____ with full _____ rudder, until the stern clears.

TASK BCM-04-11-TYPE: Moor the Boat

Single-Screw Boats

1. When mooring port side to, with a wind or current from astern, the approach should be made using an approximately _____-degree angle.
2. When mooring port side to, against the wind or current, the approach should be made on an angle, as the wind will tend to throw the _____ _____ out.
3. When mooring port side to, against the wind or current, after the bow spring line is secured, the coxswain should use full _____ rudder and kick the engine _____.
4. When mooring starboard side to, with no wind or current, the approach angle should be as _____ or possible.

Twin-Screw Boats

5. When mooring port side to, the approach should be made slowly at an approximately _____-degree angle.
6. When mooring port side to, after securing the bow line, the coxswain should apply _____ full rudder and go ahead on the _____ engine.

TASK BCM-04-12-TYPE: Boat Handling

Environmental Forces	1.	The _____acts on the hull, topsides, and, on smaller boats, the crew.
	2.	_____affect the boat handling in various ways, depending on their height and direction and the particular vessel's characteristics.
	3.	A one-knot _____ may affect a vessel to the same degree as 30 knots of wind. Strong _____ will easily move a vessel upwind.
Vessel Generated Forces	4.	When rotating to move in a forward direction, a _____draws its supply of water from every direction forward of and around the blades.
	5.	Regardless of whether the propeller is turning to go ahead or astern, the water flow pattern in the propeller's arc of rotation is called _____.
	6.	In addition to the thrust along the shaft axis, another effect of propeller rotation is _____.
	7.	The speed of the water flowing past the _____greatly enhances the _____ force.
	8.	When a hull moves forward through the water, the effective _____moves forward.
	9.	In single-screw vessels, propeller side force presents a major obstacle to _____in the direction you want.

Section E. Reading Assignments - Division Five

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BCM-05-01-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 11, Sections A and G*	3-31
BCM-05-02-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 11* • *SSB-HF Transceiver – Operator's Manual*	3-31
BCM-05-03-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 11*	3-31

TASK BCM-05-01-ANY: Operate a VHF-FM Radiotelephone

1. The effective range of the VHF-FM radio is up to _____ miles.
2. The squelch control should be turned *counterclockwise* until just beyond the point where the _____ disappears.
3. The CG VHF-FM radios will automatically monitor channel _____.
4. 156.65 MHz, channel 13 is the vessel _____ to _____ frequency.
5. 156.8 MHz, channel _____ is the international VHF-FM calling and distress frequency.

TASK BCM-05-02-ANY: Operate a SSB-HF Transceiver

1. Most Coast Guard boats carry an AM radio as a _____ communications system.
2. The noise limiter should be _____ as necessary to reduce _____ noise (static) while receiving.
3. The international distress and calling frequency is _____ KHz.
4. 2670 KHz is designated a _____ _____ frequency, and use by other stations is restricted to communications with them.

TASK BCM-05-03-ANY: Use the VHF-FM Radiotelephone to Give a Position or Operations Report

1. Every transmission should be ended with the words _____ or _____.
2. Message should be sent _____ so that the receiving party will have a chance to copy the entire message.
3. The microphone should not be _____ until you are ready to speak.
4. Unofficial conversations should/should not be transmitted.
5. Only _____ prowords or abbreviations should be used.
6. The _____ alphabet is used to spell difficult words, which are hard to understand over a radio.

Section F. Reading Assignments - Division Six

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BCM-06-01-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Sections A and B* • *Nautical Chart Symbols Abbreviations and Terms Chart No. 1*	3-35
BCM-06-02-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 13* • *Nautical Chart Symbols Abbreviations and Terms Chart No. 1* • *The American Practical Navigator, Chapter 5*	3-36
BCM-06-03-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section B* • *Nautical Chart Symbols Abbreviations and Terms Chart No. 1*	3-36
BCM-06-04-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D* • *The American Practical Navigator, Chapter 5*	3-36
BCM-06-05-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section C* • *The American Practical Navigator, Chapter 5*	3-37
BCM-06-06-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section B* • *The American Practical Navigator, Chapter 5*	3-37
BCM-06-07-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D* • *The American Practical Navigator, Chapter 5*	3-37
BCM-06-08-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D* • *Fathometer Operator's Handbook*	3-37

Task Number	Reading Assignment	See Page
BCM-06-09-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D* • *The American Practical Navigator, Chapter 5* • *RADAR Operator's Handbook*	3-38
BCM-06-10-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D* • *The American Practical Navigator, Chapter 5* • *RADAR Operator's Handbook*	3-38
BCM-06-11-TYPE	• *Knights Modern Seamanship; Eighteenth Edition, Pages 611-616* • *The American Practical Navigator, Chapter 5* • *RADAR Operator's Handbook*	3-39
BCM-06-12-TYPE	• Manufacturer's Operating Manual	3-39
BCM-06-13-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D* • *The American Practical Navigator, Chapter 5*	3-39
BCM-06-14-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 14, Section D* • *The American Practical Navigator, Chapter 5*	3-39
BCM-06-15-ANY	• None assigned	

TASK BCM-06-01-ANY: Identify the Symbols, Abbreviations and Basic Symbols of a Nautical Chart

1. One degree is equal to _____ minutes.
2. One minute of _____ is equal to one nautical mile.
3. _____ of latitude are normally indicated by lines running from side to side.
4. Latitude scales are normally indicated along the _____ margins.
5. The meridian that passes through Greenwich, England is designated as _____(o).
6. All meridians intersect at the _____.
7. Charts are oriented with _____ at the top.
8. Any location on a chart can be expressed in terms of _____ and _____.
9. True direction is printed around the _____ of the compass rose.
10. The sounding numbers show the water level at _____ _____ tide.
11. The scale of a chart is a ratio of a distance on the chart and the actual distance on the _____.
12. A buoy's type is indicated by the _____ printed with it.
13. The color of a buoy symbols print indicates the _____ of the buoy.
14. The symbol for a lighthouse or other fixed light is a black _____ with a magenta _____.
15. Ranges are indicated by the symbol for lights and a _____ _____ indicating the direction.
16. Day beacons are indicated by small _____.
17. Coastlines are viewed at both _____ and _____ water.

TASK BCM-06-02-ANY: Identify Common Aids to Navigation Used for Inland and Coastal Piloting

1. When steering on a range, if the top and bottom marks are in line, it means you are _____ of the center of the channel.
2. A cylindrical buoy that tapers to a blunt point at the top is called a _____ buoy.
3. Channel buoys that are painted green should be taken on the _____ side of the boat when entering a harbor.
4. Permanent navigation aids positioned the same as a buoy are _____ beacons.
5. If the top stripe of an obstruction or junction buoy were red, it would indicate that it should be taken on the _____ side when leaving the harbor.

TASK BCM-06-03-ANY: Identify Local Landmarks on a Nautical Chart

1. Prominent landmarks such as towers, smoke stacks, and flagpoles are pinpointed by a standard symbol of a dot surrounded by a _____.
2. All symbols and abbreviations found on a nautical chart are defined in _____.
3. How are piers, jetties, and wharves displayed on a nautical chart?

TASK BCM-06-04-ANY: Plot a Position Using Latitude and Longitude

1. They (lines) are parallel to the Equator and known as _____.
2. To measure latitude, put one point of a pair of dividers on the _____nearest the object.
3. To measure longitude, put one point of a pair of dividers on the _____nearest the object.
4. For latitude, use the _____scale.
5. For longitude, use the _____scale.

TASK BCM-06-05-ANY: Plot a Magnetic Course on a Nautical Chart

1. Direction, generally referred to as a bearing, is measured in degrees _____ through _____.
2. In small boat navigation you will usually use _____ courses and bearings.
3. When measuring magnetic direction using a parallel rule, place the rule so the edge passes through the _____ of the compass rose and the bearing number on the inner ring.

TASK BCM-06-06-ANY: Measure Distance on a Nautical Chart

1. In piloting distance is measured in _____ or _____.
2. The _____ mile is used for measurement on most navigable waters.
3. One nautical mile is approximately _____ yards.
4. Distance should be measured using the latitude scale _____ to the latitude where the distance is being measured.
5. When the distance to be measured is greater than the span of the dividers, the dividers should be set at a given number of minutes and then used to _____ off the distance between the points to be measured.

TASK BCM-06-07-ANY: Compute Time, Speed, and Distance

1. In working time, distance, and speed problems when piloting a boat, the distance is always measured in _____ miles, the speed in _____, and the time in _____.
2. Distance should be expressed to the nearest _____ of a nautical mile, speed to the nearest _____ of a knot, and time to the nearest _____.
3. The nautical _____ _____ was designed to solve time, distance, and speed problems.
4. By setting any two of the values on their opposite scales, the third can be read from the appropriate _____.

TASK BCM-06-08-ANY: Determine the Depth of Water Using a Fathometer

1. Because the transducer for the fathometer is normally mounted above the low point of the hull, the difference must be _____ from the reading in order for the reading to be accurate.
2. Water depth is indicated by a _____ _____ on the video screen per digital readout.
3. The fathometer is turned on by turning the _____ switch.
4. The fathometer can be set to measure either _____ or _____.

TASK BCM-06-09-TYPE: Use RADAR to Identify Objects

1. Radar navigation depends on the operator's _____ with radar operation and knowledge of the _____ operating area.
2. The advantages of radar are:
   a. Can be used at night or periods of _____ visibility.
   b. Fixes can be obtained _____.
   c. Fixes are available at greater distances from _____than from most other methods of piloting.
3. The disadvantages of radar are:
   a. It is subject to mechanical and _____ failure.
   b. There are both _____ and _____ range limitations.
   c. Charts do not always give information necessary for the _____ of radar echoes.
4. The brilliance control should be set so that the sweep is barely _____.
5. The _____ control adjusts the receiver for best reception.
6. The _____ selects the operating range and marker interval.
7. The plan position indicator indicates _____ bearing of a target and presents a _____ representation of the area around the boat.
8. The center of the screen represents the position of your _____.
9. Sandy spits, mud flats, and sandy beaches return the _____ and _____ echoes.
10. Buoys with radar reflectors will appear _____ to their actual size.

TASK BCM-06-10-TYPE: Determine the Range and Bearing to an Object Using RADAR

1. The bearing of a target is represented by the direction of its _____ from the center of the screen and the range is represented by its _____.
2. Radar bearings are measured _____ the same as you would visual bearings.
3. When reading bearings, the cursor line is placed over the target and the bearing is read where the cursor crosses the _____ ring.
4. When obtaining target ranges, _____ must be used between rings.
5. If the radar has a _____ range marker, the ranges can be read directly.

TASK BCM-06-11-TYPE: Use RADAR to Obtain and Interpret Relative Bearings and Ranges to a Moving Target to Determine if Risk of Collision Exists

1. When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own _____side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing _____of the other vessel.
2. Unless otherwise agreed, when two power-driven vessels are meeting on _____or nearly _____courses so as to involve risk of collision, each shall alter her course to starboard so that each shall pass on the _____side of the other vessel.
3. Just as is true of a visual bearing, the radar bearing of an approaching vessel that remains fairly _____ (with a decreasing _____), is indicative of a collision course and requires immediate and substantial action…
4. Assumptions shall not be made on the basis of _____, especially scanty radar information.

TASK BCM-06-12-TYPE: Operate the VHF-FM Direction Finder and Steer on a Signal

1. The VHF-FM homer allows you to zero in on the _____ of FM radio signal you are receiving.
2. The direction is shown on a _____ _____ display screen.
3. The source must continue to _____ as you track it.
4. After tuning the set, the boat is swung in the direction of the pointer until it _____ itself.
5. After centering, the boat's head should be swung _____-degree to be sure the source is ahead, not aft.

TASK BCM-06-13-TYPE: Obtain a Fix Using GPS/DGPS

1. GPS is a radio navigation system of____ satellites operated by the _____.
2. It is available _____ hours per day,_____ , in all weather conditions.
3. In a process called "_____", a GPS receiver on the boat uses the signal to determine the distance between it and the satellite.
4. Once the receiver has computed the range for at least _____ satellites, it processes a three-dimensional position that is accurate to about _____ meters.
5. GPS provides two levels of service -_____ (SPS) for civilian users, and _____ (PPS) for military users.

TASK BCM-06-14-ANY: Plot a Position Using LORAN-C TDs

1. Loran-C is used for precise _____ over long distance.
2. Loran-C can pinpoint a vessel position within _____ of a mile almost anywhere in the world.
3. You determine your position by matching the line figures displayed on the set to set of Loran _____ superimposed on a chart.

Section G. Reading Assignments - Division Seven

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BCM-07-01-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 16, Section A*	3-43
BCM-07-02-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 16, Section A* • *U.S. Coast Guard Addendum to the National Search and Rescue (SAR) Manual*, COMDTINST M16130.2 (series)	3-43
BCM-07-03-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 16, Section A* • *U.S. Coast Guard Addendum to the National Search and Rescue (SAR) Manual, COMDTINST M16130.2 (series)* • *Rescue and Survival Systems Manual,* COMDTINST M10470.10 (series)	3-43
BCM-07-04-TYPE	• *Rescue and Survival Systems Manual*, COMDTINST M10470.10 (series)	3-43
BCM-07-05-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 19*	3-43
BCM-07-06-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 6, Section F*	3-44
BCM-07-07-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 17, Section D*	3-44
BCM-07-08-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 17, Section D*	3-44
BCM-07-09-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 17*	3-45
BCM-07-10-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 17, Section D*	3-45
BCM-07-11-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Section I*	3-45

Task Number	Reading Assignment	See Page
BCM-07-12-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Section I*	3-46
BCM-07-13-TYPE	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Section I*	3-46
BCM-07-14-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Sections C and D*	3-46
BCM-07-15-TYPE	• None assigned	
BCM-07-16-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18*	3-46
BCM-07-17-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18*	3-47
BCM-07-18-TYPE	• None assigned	
BCM-07-19-TYPE	• None assigned	
BCM-07-20-ANY	• *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), *Chapter 18, Section F*	3-47
BCM-07-21-TYPE	• Boat Operator's Handbook	3-47
BCM-07-22-TYPE	• None assigned	

TASK BCM-07-01-TYPE: Participate in a Man Overboard Evolution as a Pointer

1. The first crewman to observe a person overboard should give the alarm by yelling "man _____ " followed by either " _____ side " or "_____ side".
2. The pointer should _____ proceed to his/her _____ station.
3. The pointer will keep the victim in _____ and continuously _____ to the victim's position.

TASK BCM-07-02-TYPE: Participate in a Man Overboard Evolution as a Recovery/Pickup Person

1. The recovery/pickup person prepares the _____ heaving line for casting to the victim.
2. After the victim has been brought alongside the boat, the recovery/pickup person should _____ aboard.

TASK BCM-07-03-ANY: Participate in a Man Overboard Evolution as a Surface Swimmer

1. A rescue swimmer is designated when the man overboard is _____ or _____.
2. The rescue swimmer must wear a _____ or wet _____, with a PFD, a swimmers _____, and a helmet.

TASK BCM-07-04-TYPE: Recover a Person-in-the-Water with the Stokes Litter

1. The stokes litter will float upright at a _____ angle with the foot submerged.
2. The stokes litter is _____-righting.
3. Five restraining straps and mesh netting are for patient restraint. The strap colors are _____, _____, _____, _____, and _____ with flotation pad.
4. The _____ strap goes first, under the patient's arms and over the chest.
5. Secure the remaining restraint around the patient working from _____ to _____.
6. The litter may be a _____ one-piece or _____ two-piece design.

TASK BCM-07-05-TYPE: Conduct Helo-Ops

1. Emergency exits on USCG helicopters are marked with _____ _____ and _____ lettering.
2. There are _____ emergency exits on the HH3F.
3. The basket should be _____ before being touched by any crew member.
4. Trail line, basket slings, or hoisting cables should never be _____ to the boat during the operation.
5. The hoisting cable and trail lines should be _____ at all times.
6. During breakaway procedures, the crew member is responsible for _____ the litter or basket, _____ line, and loose cable over the side.

TASK BCM-07-06-ANY: Fire the MK-127A1 Parachute Illumination Signal

1. Upon ignition, the MK-127A1 produces a _____ star.
2. The MK-127A1 can climb to an altitude of _____ to _____ feet.
3. The flare will provide illumination for approximately _____ seconds.

TASK BCM-07-07-ANY: Bend a Heaving Line to a Bridle and Pass the Heaving Line to Another Boat

1. A minimum of _____ turns of towline should always be kept on the reel.
2. For offshore work, it is recommended that a minimum of _____ feet of towline be carried.
3. You cannot tow beyond the design characteristics of any towing boat simply by _____ the line size.
4. Thimbles are used to _____ load on the eye and provide maximum protection to the inner top of the eye from abrasion and wear.
5. The towline should be inspected frequently for damage resulting from cutting, _____, fusing, and snagging.
6. A towing bridle should be used in cases where a _____ _____ attachment point is not available on the boat to be towed.
7. The message line is simply a length of light line, which can be _____, propelled, or floated further than the tow line.
8. Having the _____ working with the heaving line increases the range.
9. The heaving line should be _____ to make it more flexible and less susceptible to becoming tangled.

TASK BCM-07-08-TYPE: Pass a Towline to Another Boat

1. Where conditions permit and the towing boat can maneuver enough, the towline should be passed _____ to one of the people on the other boat.
2. Before attaching the towline, make certain the fitting attachment it is to be attached to is _____ to the deck with through bolts and backing plates.
3. When attaching to tow bow cleats or bitts, a _____ should be used.
4. Single leg bridles are generally used in towing _____.

TASK BCM-07-09-ANY: Connect a Towline to a Trailer Eyebolt Using a Shackle or Skiff Hook

1. The trailer eyebolt is normally located on the _____.
2. Skiff hook assemblies breaking strength should be _____ or greater than the breaking strength of the towline.
3. Connecting the towline with a shackle should only be done in _____ or moderate weather conditions.
4. After tightening the shackle _____, it should be moused.

TASK BCM-07-10-TYPE: Secure an Alongside Tow

1. When taking a boat alongside, the _____ _____ takes the strain of forward movement.
2. When taking a boat alongside, the _____ _____ takes the strain of backing down.
3. Always rig _____ to prevent hull damage.
4. When shortening the tow, you should _____ in the slack from the towline to bring the disabled vessel along side.
5. When securing the vessel alongside, you should lead the _____ forward to use as the bow line.

TASK BCM-07-11-ANY: Prepare Portable Pump for Operation, Start, and Obtain Suction

1. Pull the handle to release a _____ _____ on the storage container.
2. Connect a discharge hose and lay it out on deck so there are no _____ or _____.
3. A pump can run dry for _____, but it was designed to be started only after suction has been taken.
4. The engine will run approximately _____ hours on one tank of fuel, depending on conditions.
5. A pump watch must be alert for _____ around the strainer and must ensure the strainer remains _____. Watch for _____ _____.

TASK BCM-07-12-ANY: Assist in Passing a Portable Pump Directly to Another Boat

1. The bridle should be attached to the _____ container handles.
2. A _____ line should be rigged to control the movement of the pump after the pump is in the water.
3. After passing the heaving line, the _____ is lowered over the side and the people on the other boat are directed to _____ in on the line.

TASK BCM-07-13-TYPE: Rig and Operate an Eductor to Obtain Suction

1. Dewatering, using an eductor, is performed when weather conditions permit your boat to _____ _____ the disabled boat safely.
2. After rigging, the eductor is _____ in the flooded area.
3. Vacuum, or _____ pulls the water up through the suction hose and out the discharge hose.

TASK BCM-07-14-ANY: Identify the Different Classes of Fires and State the Fuel Sources; State the Primary Extinguishing Agents for Each Class of Fire

1. Fire is a chemical _____ known as combustion.
2. The four elements of a fire are oxygen, heat, _____, and _____ chain reaction.
3. Fires fueled by common combustible materials, such as wood, cloth, or paper, are classified as Class _____ fires. The best extinguishing agent for this class fire is _____.
4. Fires fueled by flammable or combustible liquids, flammable gases, or similar material are classified as Class _____ fires. The primary extinguishing agent for this class fire is _____.
5. Fires involving combustible _____, with fuel sources such as sodium, potassium, or magnesium, are classified as Class _____ fire. Given that these type fires are not easily extinguished, the best agents to use for control of the fire are _____ or _____.
6. Fires involving energized _____ equipment, such as conductors or appliances, are classified as Class _____ fires.
7. The principle remedy for these type fires is to secure the _____ and to apply _____ to the fire.

TASK BCM-07-16-ANY: Demonstrate Knowledge of the Operation of a CO_2 Fire Extinguisher

1. The standard CO_2 fire extinguisher used on Coast Guard boats is the _____ pound.
2. The range of the extinguisher is approximately _____ feet.
3. The CO_2 is released in the form of a fine white _____.
4. Be careful not to let the extinguisher's discharge touch your _____.
5. When using the extinguisher, the cylinder should be kept _____.

TASK BCM-07-17-ANY: Demonstrate Knowledge for the Operation of a Dry Chemical Fire Extinguisher

1. The effective range for a dry chemical fire extinguisher is _____ feet.
2. When using dry chemical approach the fire from the _____ side of the fire.
3. The dry chemical should be pointed at the _____ of the fire and use a _____ motion.

TASK BCM-07-20-ANY: Operate a Navy Vari-Nozzle

1. Straight stream is employed when _____ _____ and penetrating power are critical.
2. Wide-angle fog can cool a much _____surface than a steady stream.
3. The vari-nozzle has _____ different positions.
4. When the handle is forward the nozzle is in the _____ position.
5. To change patterns you _____the black tip.
6. When the handle is back, the nozzle is in the _____ _____ position.

TASK BCM-07-21-TYPE: Demonstrate Knowledge of the Procedures to Combat a Fire in the Engine Space

1. The first thing to do in the case of an engine space fire is to secure the _____(s).
2. Some of the causes of engine space fires are electrical, _____ line leaks, and lube oil line leaks.
3. The quickest most likely way to attack an engine space fire is with CO_2 and _____ _____ extinguishers.
4. After all fire extinguishers have been expended, and if possible, the _____ supply to the space should be secured.

Chapter 4
AtoN Crew Member Qualification Tasks

Introduction

The following are the instructions for this chapter:

- The purpose of this chapter is to provide guidance on the trainee's progress through the qualification tasks.
- The instructor should present the tasks to the trainee in a logical order using the instructions provided in *Chapter 1*.
- Tasks should be signed, dated, and placed in the trainee's training record when the instructor is satisfied that the trainee can consistently perform a task in accordance with all standards and conditions.

In this chapter

This chapter contains the following sections:

Section A. Buoy Deck Crew Member

Introduction

The following are objectives of Division One:

- **Demonstrate** knowledge of the factors that effect crew performance.

In this section

This section contains the following tasks:

TASK BDCM-01-01-ANY **AtoN Procedures**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

c. *Short Range AtoN Servicing Guide*, COMDTINST M16500.19 (series)

Conditions Trainee must accomplish task without prompting or use of a reference.

Standards Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

NOTE Completion of task does not lead to an AtoN technician qualification code.

Performance Criteria	Completed (Initials)
1. Assemble and install a 155-mm lantern.	_____
2. Demonstrate ability to time a flasher insuring the proper flash characteristic.	_____
3. Charge and install solar batteries.	_____
4. Explain proper protective equipment that is worn while handling AtoN batteries.	_____
5. Explain battery tracking procedures.	_____
6. Assemble and install solar panels.	_____
7. Conduct a blocking diode test and determine the condition.	_____
8. Take voltage readings before and after load testing a battery and determine the condition.	_____
9. Take megohmeter readings on power cable and determine condition.	_____
10. Conduct a routine inspection and determine the condition of the lighting equipment.	_____
11. Explain/demonstrate procedures for conducting air tests on buoys.	_____
12. Troubleshoot and correct problems in lighting and power equipment.	_____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-02-TYPE **Roles and Responsibilties of Buoy Deck Crew**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21(series)

b. *United States Coast Guard Regulations 1992*, COMDTINST M5000.3 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK 01-01 TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Explain the roles and relationship of the buoy deck crew: a. Buoy deck crew member b. Boom/crane operator c. Buoy deck supervisor d. Coxswain	_____ _____ _____	_____ _____ _____
2. Explain the importance of the evolution pre-brief and the assignment of personnel.	_____ _____ _____	_____ _____ _____
3. Observe a minimum of five AtoN evolutions from the pilothouse.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-03-TYPE **Safety Precaution Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21(series)
b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)
c. *Knights Modern Seamanship*
d. *Coast Guardsman Manual*
e. *Naval Ships Technical Manual* (as applicable)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM 01-02-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss the following safety equipment and describe when and how it is to be used: a. Hard hats with proper chin straps to include proper color designations. b. Proper eye protection for specific situations. c. Proper types of personal flotation devices and their associated equipment. d. Proper use of safety belts and harnesses. e. Explain why knives are to be worn by all buoy deck personnel. f. Proper clothing and footwear during buoy deck evolutions to include clothing required for foul weather operations. g. Boat's eye wash stations. h. Situations when hearing protection is to be worn to include types of hearing protection. i. Situations and dangers that require gloves to be worn. j. Appropriate safety markings for the buoy deck and associated equipment (e.g. trip hazards, lifting hooks, etc.).	_____ _____ _____	_____ _____ _____
2. State the minimum distance that personnel should remain clear of fairlead blocks, bitts, cleats, deck winches, and chocks.	_____ _____ _____	_____ _____ _____
3. Explain why personnel should remain clear of a bight of line, wire and chain.	_____ _____ _____	_____ _____ _____
4. Explain why line and wire must be handled hand-over-hand.	_____ _____ _____	_____ _____ _____
5. Explain the proper method for fairleading cross deck winches.	_____ _____ _____	_____ _____ _____
6. Discuss why and how suspended hooks must be tended.	_____ _____ _____	_____ _____ _____
7. Discuss the importance of minimizing noise during buoy deck operations.	_____ _____ _____	_____ _____ _____

Performance Criteria	Completed (Initials)	Boat Type
8. For each of the following, identify the associated hazards and what safety precautions apply: a. Working near suspended or moving loads b. Cleaning buoys c. Painting buoys d. Handling/working near AtoN batteries e. Working on/near buoys with sound signals f. Working with hand tools g. Working with electric tools and electricity h. Working with pneumatic tools and compressed air i. Entering/leaving the buoy deck j. Working in foul weather k. Working atop a buoy (servicing, hot packing) l. Working around open hatches and unguarded openings m. Hoisting loads from the water or over the stern n. Working with hazardous material in general o. Working on an icy or unusually slippery deck p. Working with pressure washing equipment q. Wearing jewelry during buoy deck evolutions **PROHIBITED** r. Handling wire s. Overloading of load handling equipment	_____ _____ _____	_____ _____ _____
9. Identify and explain the danger zones associated with the following: a. Line handling b. Wire rope c. Running rigging d. Snatch blocks e. Hoisting and moving loads f. Pulling and faking chain g. Deck boxes and handrails	_____ _____ _____	_____ _____ _____
10. Identify and explain escape routes associated with the following: a. Line handling b. Wire rope c. Running rigging d. Snatch blocks e. Hoisting and moving loads f. Pulling and faking chain	_____ _____ _____	_____ _____ _____
11. Discuss how the following external forces affect buoy deck operations: a. Adverse weather b. Roll c. Boat control difficulties d. Pitch e. Fouled mooring f. List g. Current	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-04-TYPE **Terminology Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series)
b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)
c. *Knights Modern Seamanship*
d. *Coast Guardsman Manual*
e. *Naval Ships Technical Manual* (as applicable)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM 01-03-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Define the following terms and explain how the terms pertain to the buoy deck evolutions: a. Avast b. Bale/bail c. Bight d. Bitts e. Bitter end f. Block g. Boat hook h. Boom/crane i. Bull chain j. Chain stopper k. Chain hook l. Check m. Chock (closed) n. Cross deck o. Cleat p. Deck load q. Dor-Mor anchors r. Dunnage s. Ease t. Fender u. Grapnel hook v. Hand-over-hand w. Head block x. Heave around y. Hold z. Horse collar aa. Hook bb. Hoist (whip) cc. Lead line dd. Lifeline ee. Line ff. Link gg. Live chain hh. Master link ii. Marker buoy jj. Padeye kk. Saddle ll. Safety chain mm. Safe working load (SWL) nn. Slack oo. Sounding pole pp. Snatch block qq. Stand by rr. Stow ss. Strain tt. Tag line uu. Tension vv. Two-block ww. Winch xx. Wire rope yy. Wire drag zz. Working load limit (WLL)	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-05-TYPE **Rigging Safety Precaution Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

c. *Knights Modern Seamanship*

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-04-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss safety precautions and rigging requirements in preparing to load/off-load buoy deck.	_____ _____ _____	_____ _____ _____
2. Explain how and why routine visual inspections are conducted prior to use of the following equipment: a. Bull chain (1) Slings (2) Wire rope (3) Chain b. Synthetic fiber c. Gripe chains d. Chain stopper e. Horse collar f. Modeer shackle g. Aircraft tie-downs h. Steamboat jacks i. Snatch blocks j. Blocks, sheaves, pins k. Hooks (assorted types) l. Shackles (assorted types) m. Lines n. Padeyes o. Wire rope p. Pelican hook q. Tag lines & snap hooks	_____ _____ _____	_____ _____ _____
3. Discuss what to do with load handling equipment that is found to be defective.	_____ _____ _____	_____ _____ _____
4. Define Safe Working Load (SWL) and Working Load Limit (WLL). Explain the importance of knowing the WLL or SWL following rigging equipment: a. Wire rope b. Slings (1) Wire rope (2) Chain (3) Synthetic fiber c. Steamboat jacks d. Hooks e. Shackles	_____ _____ _____	_____ _____ _____

Performance Criteria	Completed (Initials)	Boat Type
f. Lines g. Padeyes h. Gripe chains i. Snatch blocks		
5. Discuss why it is necessary to know the weight of the load to be lifted.	_____ _____ _____	_____ _____ _____
6. Discuss why the landing area must be clear before lifting the load.	_____ _____ _____	_____ _____ _____
7. Explain the use of tag lines when moving a load.	_____ _____ _____	_____ _____ _____
8. Explain how to properly attach slings to a load.	_____ _____ _____	_____ _____ _____
9. Discuss the possible consequences of attempting to hoist a load with improperly rigged slings.	_____ _____ _____	_____ _____ _____
10. Explain the proper care and stowage of rigging equipment.	_____ _____ _____	_____ _____ _____
11. Explain the importance of properly reeving hooks into bales, padeyes and chains.	_____ _____ _____	_____ _____ _____
12. Explain the importance of setting the chain in the stopper after every pull.	_____ _____ _____	_____ _____ _____
13. Explain how to properly attach slings to a load: a. Wire rope clip b. Chain (open link) c. Deck load d. End fitting e. Fairlead f. Bridle g. Pigtail h. Mechanical advantage	_____ _____ _____	_____ _____ _____
14. Explain the proper use of dunnage.	_____ _____ _____	_____ _____ _____
15. Identify the various sizes and classes of buoys serviced.	_____ _____ _____	_____ _____ _____
16. Identify the size of chain serviced.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-06-TYPE **Buoy Deck Tool Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-05-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify and discuss how to use the following tools: a. Anvil (heat and beat) b. Bars (crow, wrecking, cheater) c. Chain hook d. Hacksaw e. Hammer (sledge, pin, split key 30 and 45 degree) f. Hatchet (axe) g. Pliers h. Buoy scraper i. Screwdrivers (assorted sizes and types) j. Tape measure k. Calipers l. Wrench m. Boat hook n. Knives o. Reeving line device (happy hooker) p. Marlinespike	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-07-TYPE **Cutting and Heating with Oxygen Acetylene**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series)

b. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-06-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify and explain the following: a. Oxygen b. Acetylene c. Torch handle d. Cutting tip e. Oxygen cylinder f. Acetylene cylinder g. Rosebud tip h. Check valves i. Cutting goggles/face shield j. Flashback arrestors k. Tip cleaning tool l. Oxy/acetylene hoses m. Striker n. Regulators	_____ _____ _____	_____ _____ _____
2. Discuss the following safety related items: a. Personal protective equipment (e.g. eye protection, hot work gloves, etc.) b. Inspection of hoses and torch c. Operation of flashback arrestors and check valves d. Inspection of regulators e. Proper sequence for lighting torch f. Dangers of excessive acetylene pressure g. Presence of flammables in cutting/slag area h. Protecting deck and adjacent compartments i. Dangers of cutting on concrete sinkers j. Incompatibility of petroleum products and oxygen k. Security of cylinders in rack l. Dangers of cutting on metal painted with lead, chromate or vinyl based paints m. Dangers of heating or cutting around buoy battery pocket vent lines n. Importance of keeping acetylene cylinders upright prior to and during use o. Fire watch requirements during and after hot work p. Hazards of conducting hot work on galvanized metals q. Emergency shutdown procedures	_____ _____ _____	_____ _____ _____
3. Explain hazards of cutting or heating buoy hulls.	_____ _____ _____	_____ _____ _____

Performance Criteria	Completed (Initials)	Boat Type
4. Cut and heat with oxygen-acetylene outfit as follows: a. Select proper size cutting tip and/or rosebud tip. b. Select proper regulator settings. c. Cut various chain and shackles. d. Perform heat and beat installation.	_____ _____ _____	_____ _____ _____
5. Secure torch as follows: a. Shut off torch. b. Secure gas bottles. c. Secure hoses and regulators. d. Stow all gear.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-08-TYPE **Hand Signal Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series)

b. *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-07-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss/identify and demonstrate the following hand signals used during buoy deck evolutions: a. Boom/crane forward b. Boom/crane aft c. Raise/lower port whip d. Raise/lower starboard whip e. Raise/lower both whips f. Heave around on the cross deck g. Ease the cross deck h. Boom/crane aft/ease the cross deck i. Boom/crane forward/heave around on the cross deck	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-09-TYPE **Buoy Deck Limitations and Parameters**

References

a. *Aids to Navigation Manual - Seamanship*, COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

d. *49' Buoy Utility Stern Loading (BUSL) Boat Operator's Handbook,* COMDTINST M16114.22 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-08-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. State the WLL of the boom/crane and cross decks.	_____ _____ _____	_____ _____ _____
2. State the maximum deck load (weight).	_____ _____ _____	_____ _____ _____
3. State the WLL of the bull chain padeyes.	_____ _____ _____	_____ _____ _____
4. State the WLL of the recessed tie-down padeyes.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-10-TYPE **Use and Application of AtoN Buoy Deck Equipment**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-09-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Rig and demonstrate the proper use of: a. Choker b. Synthetic slings c. Hammer locks d. Grapnel hook e. Come-along f. Aircraft tie-downs g. Steam boat jacks h. Snatch blocks i. Horse collar j. Calipers k. Sounding pole/lead line l. Marker float	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-11-TYPE **Buoy Deck Seamanship and Associated Hardware**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions Task will be performed onboard each boat type upon completion of TASK BDCM-01-10-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify the use and application of the following types/classes of shackles: a. Screw pin b. Heat and beat (rivet pin) c. Split key	_____ _____ _____	_____ _____ _____
2. Identify the types/classes of swivels.	_____ _____ _____	_____ _____ _____
3. Identify and determine the size of chain.	_____ _____ _____	_____ _____ _____
4. Identify different types of buoy bridles.	_____ _____ _____	_____ _____ _____
5. Identify the different sizes of sinkers.	_____ _____ _____	_____ _____ _____
6. Identify the types/sizes of Dor-Mor anchors and their holding power.	_____ _____ _____	_____ _____ _____
7. Demonstrate the ability to perform the following: a. Split a split key shackle. b. Install a heat and beat. c. Mouse hooks to lifting bails (NO WEATHER HITCHES). d. Attach a swivel to a mooring bail. e. Attach chain to a sinker. f. Install a buoy bridle or mooring pendant (5X9).	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-12-TYPE **Mooring Maintenance**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-11-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Conduct mooring maintenance as follows: a. Check personal equipment. b. Break the buoy. c. Hook up the buoy. d. Determine chain wear. e. Hook up a sinker. f. Inspect bridle and swivel. g. Secure equipment after use.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

_____

TASK BDCM-01-13-TYPE **Griping Buoys and Sinkers**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-12-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Gripe down buoys and sinkers as follows: a. Check personal equipment. b. Set up deck. c. Position saddle under buoy. d. Set headblock. e. Gripe buoy. f. Gripe sinker. g. Position dunnage. h. Secure equipment after use.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-14-TYPE **Buoy Maintenance**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-13-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Perform buoy maintenance as follows: a. Check personal equipment. b. Lay out AtoN equipment. c. Scrape and paint a buoy. d. Inspect and replace retro as needed. e. Inspect and replace vent valves as needed. f. Prepare buoy for recharge. g. Rig buoy for air testing. h. Secure equipment after use.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-15-TYPE **Mooring Evolution**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-14 - TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Participate in a mooring evolution as follows: a. Check personal equipment. b. Rig bull chain. c. Rig pelican hooks. d. Rig horse collar. e. Rig tagline. f. Rig modeer shackle/nipper chain/shackle. g. Hookup for hoist. h. Seat chain in stopper. i. Fake chain on deck. j. Tie rotten stops. k. Strike horse collar. l. Trip pelican hook on the “Stand by” command. m. Trip chain stopper on the “Set the buoy” command. n. Secure equipment after use.	_____ _____ _____	_____ _____ _____
2. Make proper reports to the coxswain on how the chain tends throughout the evolution.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDCM-01-16-TYPE **Towing a Buoy**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDCM-01-15-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Rig the deck for towing a buoy.	_____ _____ _____	_____ _____ _____
2. Rig buoy for towing.	_____ _____ _____	_____ _____ _____
3. Set tow watch.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

Section B. Boom/Crane Operator

Introduction

The following are objectives of Division Two:

- **Demonstrate** knowledge of the factors that effect crew performance.

In this section

This section contains the following tasks:

TASK BO-02-01-TYPE **Boom/Crane Operator Safety Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1

c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

Conditions Task will be performed onboard each boat type upon completion of *Chapter 4, Section A* of this manual. Trainee must accomplish task without prompting or use of a reference.

Standards Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss the following safety topics: a. When tag lines are required on lifts. b. The maximum height a load should be lifted and why landing area shall be clear prior to lifting the load. c. The dangers of shock-loading the boom/crane. d. Why the boom/crane operator must follow the buoy deck supervisor's hand signals. e. The special or emergency situations when the boom/crane operator should take independent action. f. The warnings that may be seen or heard from faulty equipment or equipment under heavy strain. g. The precautions necessary when lifting loads near the rated capacity of the boom/crane. h. Why excessive speed and sudden starts or stops should be avoided on lifting equipment. i. Describe the minimum number of turns required on wire rope drums. j. The dangers of exceeding limits when boom/craning forward and aft. k. How external factors such as roll, pitch and wind affect boom/crane operations. l. Explain the importance of exercising the boom/crane. m. Explain importance of evenly distributing the deck load.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BO-02-02-TYPE **Boom/Crane Operator Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1

c. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

Conditions Task will be performed onboard each boat type upon completion of TASK BO-02-01-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. State the lifting limits of the boom/crane and the whips.	_____ _____ _____	_____ _____ _____
2. Identify the following blocks and tackles (as applicable): a. Single whip b. Wire rope snatch blocks	_____ _____ _____	_____ _____ _____
3. Explain the following characteristics of wire rope: a. Wire rope diameter b. Wire rope construction c. Types of wire rope cores d. Wire rope grade e. Explain how to determine serviceability f. Discuss restrictions on use	_____ _____ _____	_____ _____ _____
4. Discuss the importance of and procedures for wire rope lubrication and maintenance.	_____ _____ _____	_____ _____ _____
5. Explain the inspection standards for each of the following conditions which would cause the removal of wire rope from service: a. Crushing b. Broken wires/strands c. Kinks d. Loss of diameter e. Corrosion f. Excessive wear of outer wires	_____ _____ _____	_____ _____ _____
6. Identify and discuss the following relating to daily inspections prior to boom/crane operation: a. Wire rope spooling b. Wire rope lubrication c. Wire rope condition d. Condition of hooks and swivels e. Condition of end fittings f. Cotter pins and keepers g. Lubrication of fittings h. Operation of controls prior to energizing boom/crane i. Condition of blocks and sheaves	_____ _____ _____	_____ _____ _____

Performance Criteria	Completed (Initials)	Boat Type
7. Discuss the indications of improper operation for each of the following when the boom/crane is being exercised: a. Boom/crane controls b. Emergency shutoffs c. Swivels d. Rough or unsmooth operation e. Blocks f. Sheaves	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

_____

TASK BO-02-03-TYPE **Boom/Crane System and Components**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)
b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)
c. *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1
d. *49 ' BUSL Boat Operator's Handbook*, COMDTINST M16114.22 (series)
e. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BO-02-04 -TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss the following boom/crane system components applicable to the boom/crane: a. Controls b. Whip hoist c. Winches d. Brakes e. Drum f. Winch motor g. Rams h. Wire rope i. Limit cutoff switch	_____ _____ _____	_____ _____ _____
2. Discuss the following electrical system components associated with the boom/crane: a. Circuit breakers	_____ _____ _____	_____ _____ _____
3. Discuss the following hydraulic system components: a. Generator PTO b. Hydraulic pump c. Hydraulic motor d. Relief valve e. Temperature gauge f. Directional control valve g. Reservoir h. Filters i. Pressure gauge	_____ _____ _____	_____ _____ _____
4. Explain how to properly energize boom/crane hydraulics.	_____ _____ _____	_____ _____ _____
5. State the pressure and temperature operating parameters.	_____ _____ _____	_____ _____ _____
6. Discuss the effects of contaminants/air in hydraulic systems.	_____ _____ _____	_____ _____ _____
7. Discuss the identification of fluid leaks and the procedure for correcting leaks.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BO-02-04-TYPE **Boom/Crane Operation**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)
b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)
c. *Naval Ships Technical Manual* (as applicable)
d. *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1
e. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

Conditions Task will be performed onboard each boat type upon completion of TASK BO-02-05-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Conduct a pre-exercise inspection of boom/crane and cross deck.	_____ _____ _____	_____ _____ _____
2. Exercise the boom/crane and cross decks.	_____ _____ _____	_____ _____ _____
3. Operate the boom/crane with no load to limits of arc following hand signals from BDS.	_____ _____ _____	_____ _____ _____
4. Load/offload sinkers, chain, and unlighted buoys.	_____ _____ _____	_____ _____ _____
5. Load/offload lighted buoys.	_____ _____ _____	_____ _____ _____
6. Load/offload general cargo.	_____ _____ _____	_____ _____ _____
7. U/W work unlighted buoys and moorings.	_____ _____ _____	_____ _____ _____
8. U/W work lighted buoys and moorings.	_____ _____ _____	_____ _____ _____
9. Retrieve mudded/sanded in sinker.	_____ _____ _____	_____ _____ _____
10. Retrieve fouled mooring.	_____ _____ _____	_____ _____ _____
11. Retrieve a mooring with paper-clipped chain.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

Section C. Buoy Deck Supervisor

Introduction

The following are objectives of Division Two:

- **Demonstrate** knowledge of the factors that effect crew performance.

In this section

This section contains the following tasks:

TASK BDS-03-01-TYPE **Buoy Deck Supervisor Safety Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)
b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)
c. *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1
d. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

Conditions

Task will be performed onboard each boat type upon completion of *Chapter 4, Sections A and B* of this manual. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss the following safety topics: a. When tag lines are required on lifts. b. The maximum height a load should be lifted and why landing area shall be clear prior to lifting the load. c. The dangers of shock loading the boom/crane. d. Why the boom/crane operator must follow the buoy deck supervisor's hand signals. e. The special or emergency situations when the boom/crane operator should take independent action. f. The warnings that may be seen or heard from faulty equipment or equipment under heavy strain. g. The precautions necessary when lifting loads near the rated capacity of the boom/crane. h. Why excessive speed and sudden starts or stops should be avoided on lifting equipment. i. Describe the minimum number of turns required on wire rope drums. j. The dangers of exceeding limits when boom/craning forward and aft. k. How external factors such as roll, pitch and wind affect boom/crane operations. l. Explain importance of evenly distributing the deck load. m. Explain air testing requirements and safety precautions.	_____ _____ _____	_____ _____ _____
2. Explain the coordination required between the buoy deck supervisor and coxswain.	_____ _____ _____	_____ _____ _____
3. Explain the importance of the evolution pre-brief and the assignment of personnel.	_____ _____ _____	_____ _____ _____
4. Discuss how the following external forces affect buoy deck operations: a. Adverse weather b. Roll c. Boat control difficulties d. Pitch e. Fouled mooring f. List g. Current	_____ _____ _____	_____ _____ _____
5. Explain the importance of conducting operational pre-checks.	_____ _____ _____	_____ _____ _____
6. Explain the importance of exercising the boom/crane.	_____ _____ _____	_____ _____ _____

Performance Criteria	Completed (Initials)	Boat Type
7. Explain what actions a BDS should take to ensure safety in the following situations. a. Operating with a full deck load b. Swinging load c. Fouled tagline d. Two-blocked e. Loss of power during: (1) Hoisting a buoy (2) Pulling chain (3) Setting the buoy (4) Hanging the sinker (5) Pulling the sinker f. Parting the whip, during: (1) Hoisting a buoy (2) Pulling chain (3) Setting the buoy (4) Hanging the sinker (5) Pulling the sinker g. Loss of main engines during: (1) Hoisting a buoy (2) Pulling chain (3) Setting the buoy (4) Hanging the sinker (5) Pulling the sinker h. Loss of cross deck control during: (1) Hoisting a buoy (2) Setting the buoy (3) Hanging the sinker (4) Pulling the sinker i. Loose buoy on deck	_____ _____ _____	_____ _____ _____
8. Define shock load and identify what safety precautions to take to prevent it.	_____ _____ _____	_____ _____ _____
9. Discuss the following abnormal situations, difficulties, dangers, and procedures: a. Retrieving a sunken buoy b. Working in ice c. Knotted chain d. Fouled mooring e. Inverted buoy f. Mudded/sanded-in sinker g. Working a buoy with divers h. Working a diving buoy i. Towing buoys on to station j. Retrieving stray buoys	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDS-03-02-TYPE **Buoy Deck Supervisor Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)
b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)
c. *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1
d. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDS-03-01-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. State the lifting limits of the boom/crane and whips.	_____ _____ _____	_____ _____ _____
2. Identify the following blocks and tackles (as applicable): a. Single whip. b. Wire rope snatch blocks.	_____ _____ _____	_____ _____ _____
3. Explain the following characteristics of wire rope: a. Wire rope diameter b. Wire rope construction c. Types of wire rope cores d. Wire rope grade e. How to determine serviceability f. Restriction on use	_____ _____ _____	_____ _____ _____
4. Discuss the importance of and procedures for wire rope lubrication and maintenance.	_____ _____ _____	_____ _____ _____
5. Explain the inspection standards for each of the following conditions which would cause the removal of wire rope from service: a. Crushing b. Broken wires/strands c. Kinks d. Loss of diameter e. Corrosion f. Excessive wear of outer wires	_____ _____ _____	_____ _____ _____
6. Identify and discuss the following relating to daily inspections prior to boom/crane operation: a. Wire rope spooling b. Wire rope lubrication c. Wire rope condition d. Condition of hooks and swivels e. Condition of end fittings f. Cotter pins and keepers g. Lubrication of fittings h. Operation of controls prior to energizing boom/crane i. Conditions of hangers, blocks, straps, and sheaves	_____ _____ _____	_____ _____ _____

Performance Criteria	Completed (Initials)	Boat Type
7. Discuss the indications of improper operation for each of the following when the boom/crane is being exercised: a. Boom/crane controls b. Emergency shutoffs c. Swivels d. Rough or unsmooth operation e. Blocks f. Sheaves	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

_____

TASK BDS-03-03-TYPE **Buoy Deck Supervisor Rigging Fundamentals**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)
b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)
c. *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1
d. *Naval Engineering Manual*, COMDTINST M9000.6 (series)

Conditions

Task will be performed onboard each boat type upon completion of TASK BDS-03-02 -TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards

Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Define Safe Working Load (SWL) and Working Load Limit (WLL). Explain the importance of knowing the WLL or SWL and how to determine it on the following rigging equipment: a. Wire rope b. Slings (1) Wire rope (2) Chain (3) Synthetic c. Steamboat jacks	_____ _____ _____	_____ _____ _____
2. Explain horizontal sling angles.	_____ _____ _____	_____ _____ _____
3. Discuss the authorized method for lifting compressed gas cylinders.	_____ _____ _____	_____ _____ _____
4. Describe two-blocking and the dangers involved.	_____ _____ _____	_____ _____ _____
5. Explain the importance of loads being level prior to lifting.	_____ _____ _____	_____ _____ _____
6. Explain the importance of establishing and maintaining a proper lead to control loads.	_____ _____ _____	_____ _____ _____
7. Explain the danger involved with point loading of hooks.	_____ _____ _____	_____ _____ _____
8. Explain the requirements for rated capacity tags on slings.	_____ _____ _____	_____ _____ _____
9. Discuss the safety considerations for towing buoys on to station.	_____ _____ _____	_____ _____ _____
10. Discuss the safety considerations for retrieving stray buoys.	_____ _____ _____	_____ _____ _____
11. Explain how to drag a sinker on station.	_____ _____ _____	_____ _____ _____
12. State the weight of the various types of buoys, sizes of chains and bridles serviced.	_____ _____ _____	_____ _____ _____

Performance Criteria	Completed (Initials)	Boat Type
13. State the weight of the various types of buoys serviced by your unit when they are flooded.	_____ _____ _____	_____ _____ _____
14. Describe the boom/crane position for the following evolutions: a. Hooking a buoy b. Pulling chain c. Bringing the sinker onboard d. Hanging the sinker e. Setting the buoy f. Loading and off-loading g. Moving loads on deck in a seaway	_____ _____ _____	_____ _____ _____
15. Discuss the required frequencies and conduct rigging inspections and weight/load testing for the following equipment: a. Boom/crane b. Whips c. Hooks d. Cross decks e. Chain stop f. Recessed padeyes g. Pelican hook h. Gripe down chains i. Slings j. Wore rope	_____ _____ _____	_____ _____ _____
16. Slush wire rope	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

TASK BDS-03-04-TYPE **Supervise a Buoy Deck Evolution**

References

a. *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)

b. *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)

Conditions Task will be performed onboard each boat type upon completion of TASK BDS-03-03-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Conduct a pre-exercise inspection of boom/crane and cross deck.		
2. Exercise the boom/crane and cross decks with no load to limits of arc using proper hand signals.		
3. Supervise loading/offloading sinkers, chain, and unlighted buoys.		
4. Supervise loading/offloading lighted buoys.		
5. Supervise loading/offloading general cargo.		
6. Supervise hanging and setting various unlighted buoys used in unit OPAREA.		
7. Supervise hanging and setting various lighted buoys used in unit OPAREA.		
8. Supervise servicing lighted and unlighted buoys on deck.		
9. Retrieve mudded/sanded in sinker.		
10. Retrieve fouled mooring.		
11. Retrieve a mooring with paper-clipped chain.		
12. Explain procedures for retrieval of a flooded buoy.		
13. Explain procedures for retrieval of a sunken buoy by dragging.		
14. Supervise retrieving, servicing and deploying lighted and unlighted buoys in adverse weather conditions.		
15. Supervise towing buoys onto station.		
16. Supervise the retrieving of a stray buoy.		

Performance Criteria	Completed (Initials)	Boat Type
17. Conduct post buoy operation debriefs.	_____ _____ _____	_____ _____ _____
18. Explain procedures of a man overboard drill while at AtoN stations.	_____ _____ _____	_____ _____ _____

Instructor _____ **Date** _____

Comments _____

_____

_____

Chapter 5
AtoN Crew Member Trainee Study Guide

Introduction

This chapter should be removed and given to the trainee to keep. Its purpose is to provide guidance for the trainee's reading assignments and is not a part of the training record.

The trainee should read the appropriate reading assignment and answer the related questions prior to beginning training in each new task. The instructor should then discuss the trainees answers to ensure understanding of the subject matter prior to beginning instruction for each new task.

In this chapter

This chapter contains the following sections:

Section A. Reading Assignments - Division One

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

	(series)	
BDCM-01-07-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Naval Engineering Manual*, COMDTINST M9000.6 (series)	5-11
BDCM-01-08-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1	5-11
BDCM-01-09-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series) • *Naval Engineering Manual*, COMDTINST M9000.6 (series) • *49' BUSL Boat Operator's Handbook*, COMDTINST M16114.22 (series)	5-12
BDCM-01-10-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)	5-12
BDCM-01-11-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)	5-13
BDCM-01-12-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)	5-13
BDCM-01-13-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)	5-13
BDCM-01-14-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)	5-14
BDCM-01-15-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series)*Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)	5-14

BDCM-01-16-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series)	5-14

TASK BDCM-01-01-ANY: AtoN Procedures

1. Most lighted shore aids use _____mm lanterns and _____ watt solar panels.
2. A _____ is used to check the buoy battery power cables prior to installation of a new battery.
3. When looking at the schematic symbol for a diode, what denotes the direction of current flow?

4. Why are air tests conducted on buoys, and state the pressure normally applied and the allowable pressure loss?

5. The _____ and _____ charger should be checked for proper operation after a new battery is installed.
6. Where are the critical gaskets and weather seals located when assembling a lantern?

7. What are the correct disposal techniques for AtoN batteries that are no longer serviceable?

8. Name at least four external forces which affect buoy deck operations.

TASK BDCM-01-02-TYPE: Roles and Responsibilities of Buoy Deck Crew

1. Who is in charge of all evolutions when handling buoys or other aids to navigation ?

2. On some craft, the boom/crane operator may also be the _____.
3. The most important item to be accomplished during the evolution pre-brief is _____.
4. State at least two ways the buoy deck supervisor may communicate with the boom/crane operator.
   a.
   b.

TASK BDCM-01-03-TYPE: Safety Precaution Fundamentals

1. List at least five pieces of safety equipment or apparel that must be worn on the buoy deck during buoy handling evolutions.

2. Define a "bight" in reference to line, wire or chain and explain its apparent danger to personnel.

3. Wire and line must be handled hand-over-hand to prevent _____ ____ _____.
4. State the location of eye wash station on your assigned boat.

5. From how many points (minimum) should loads on suspended hooks be tended?

6. What is the minimum distance that buoy deck crew members should remain clear of cross deck winch cables when under load?

7. What jewelry can be worn by personnel on the buoy deck during buoy deck evolutions?

8. What four external forces (there are more than four) effect buoy deck operations?

TASK BDCM-01-04-TYPE: Terminology Fundamentals

1. What is the difference between SWL and WLL ?

2. What is dunnage?

3. Define the term “live chain”.

4. What is a sounding pole?

5. What is the difference between an open chock and a closed chock?

6. What is a head block?

7. Define the term “lead line”.

8. Explain how a snatch block might be used during the lifting or lowering of a buoy.

9. What is a tag line normally used for?

10. Explain the difference between a cleat and a padeye.

TASK BDCM-01-05-TYPE: Rigging Safety Precaution Fundamentals

1. What is a steamboat jack used for ?

2. Line should never be stored while ____ or _____.
3. Explain the term 6 x 37 wire rope.

4. The WLL of wire rope used in slings is based on a _____ to _____ safety factor.
5. Blocks are classified by the number of _____.
6. What size and class buoys can be safely serviced by the 49' BUSL ?

7. When should buoy handling equipment (boom/crane, hydraulic pumps and motors, cross deck winches) be inspected ?

TASK BDCM-01-06-TYPE: Buoy Deck Tools Fundamentals

1. During buoy handling evolutions, where should tools be stowed that are not required for the evolution?

2. What is the reeving line device (happy hooker) normally used for?

3. What personnel safety equipment is required when using a buoy scraper?

4. The angle of the teeth on a hacksaw blade should be _____ from the handle.

TASK BDCM-01-07-TYPE: Cutting and Heating with Oxygen Acetylene

1. What color(s) are normally used to identify industrial oxygen containers?

2. What safety equipment is essential when using an oxygen-acetylene torch?

3. Where are the oxygen-acetylene bottles stowed?

4. Explain the difference (function and description) between a rosebud tip and a cutting tip?

5. Explain the fire watch requirements when conduction hot work?

6. The greatest hazard when cutting or heating a buoy hull is _____.
7. The danger of cutting or heating around buoy battery vents is the presence of _____.

TASK BDCM-01-08-TYPE: Hand Signal Fundamentals

1. The buoy deck supervisor shall only give signals to the _____ _____ or appointed _____.
2. If the deck supervisor has his arms bent upward at the elbows and fists clenched, it is the signal for _____ ____.
3. What is the hand signal for the deck supervisor transfer?

4. What is the hand signal for raising the boom/crane?

5. If the deck supervisor has his hands clasped in front of his body, it is the signal for _____.

TASK BDCM-01-09-TYPE: Buoy Deck Limitations and Parameters

1. What is the safe working load for the boom/crane and the cross deck winches?

2. What is the safe working load of the tow bull chain tie-downs on the BUSL buoy deck?

3. What is the safe working load of the fourteen tie-downs on the BUSL buoy deck?

TASK BDCM-01-10-TYPE: Use and Application of AtoN Buoy Deck Equipment

1. Describe and define the use of the following buoy deck equipment:
   a. Snatch blocks

   b. Grapnel hook

   c. Lead line

   d. Horse collar

   e. Come-along

TASK BDCM-01-11-TYPE: Buoy Deck Seamanship and Associated Hardware

1. The three most common types of shackles are _____, _____, and _____.
2. The most common sinker weights are _____ and _____ pounds.
3. Most sinkers have _____bails, one on _____and one on the _____.
4. Swivels are necessary to _____ _____ _____ of the load.
5. What are the types and sizes of Dor-Mor anchors and state each of their holding power?

6. What terms are used to identify the type and size of chain?

TASK BDCM-01-12-TYPE: Mooring Maintenance

1. When ____ percent of the bar diameter has been worn away, the chain must be replaced.
2. What is meant by the term break the buoy?

3. State all the personnel protective gear that must be worn during mooring maintenance.

4. Buoy moorings consists of a bridle which is _____ short lengths of _____, connected by an _____ _____.

TASK BDCM-01-13-TYPE: Griping Buoys and Sinkers

1. A headblock is used in conjunction with a _____ _____.
2. What is meant by the term gripe in relation to buoy handling evolutions?

3. Where are the deck lockers located in relation to the buoy deck?

TASK BDCM-01-14-TYPE: Buoy Maintenance

1. When handling buoys, it is advisable to keep the load _____ and handle it _____.
2. What is the purpose for air testing a buoy?

3. What is the function of the vent valve in a buoy?

4. What is one of the primary safety hazards when recharging a buoy battery?

TASK BDCM-01-15-TYPE: Mooring Evolution

1. A rotten stop is a _____ _____ intend to _____ _____ _____.
2. What is meant by the command strike the horse collar?

3. A nipper chain is a section of chain with _____ on both ends.
4. A modeer shackle is a 1- or 2-inch_____ shackle with a _____ _____ type pin.
5. What is a tag line used for?

TASK BDCM-01-16-TYPE: Towing a Buoy

1. Never attempt to tow a buoy unless you know the _____ of the sinker and the size, _____ and _____ of mooring.
2. Always tow from the _____ _____ of the buoy.
3. When attempting to tow a buoy with the 49' BUSL, it is recommended that the _____ _____ tie-downs be used.

Section B. Reading Assignments - Division Two

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BO-02-01-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1 • *Naval Engineering Manual*, COMDTINST M9000.6 (series)	5-17
BO-02-02-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1 • *Naval Engineering Manual*, COMDTINST M9000.6 (series)	5-17
BO-02-03-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series) • *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1 • *49' BUSL Boat Operator's Handbook*, COMDTINST M16114.22 (series) • *Naval Engineering Manual*, COMDTINST M9000.6 (series)	5-18
BO-02-04-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series) • *Naval Ships Technical Manual* (as applicable) • *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1 • *Naval Engineering Manual*, COMDTINST M9000.6 (series)	5-18

TASK BO-02-01-TYPE: Boom/Crane Operator Safety Fundamentals

1. Why are hand signals so important to the boom/crane operator during buoy handling operations?

2. Tag lines are required to _____.
3. On a 49' BUSL, what is the maximum sea state for buoy operations?

4. In pounds, what is the maximum hoisting capacity (buoy safe working load) for the 49' BUSL?

5. The minimum number of turns required on a wire rope drum is _____ turns.
6. All hand signals during boom/crane operations should originate from the _____ _____ _____.

TASK BO-02-02-TYPE: Boom/Crane Operator Fundamentals

1. The A-frame winches contain _____ feet of _____-inch steel wire rope.
2. The line speed of each A-frame winch is 0 to _____ feet per minute.
3. The cross deck winches contain _____ feet of ____-inch steel wire rope.
4. From how many different locations may the A-frame and cross deck winches be operated?

5. What is the size of the lanyard attached to the chain stopper?

6. What are at least four inspection items that are used to determine the serviceability of wire rope?
   a.
   b.
   c.
   d.
7. What will support the load on the boom/crane if hydraulic pressure fails during a lifting operation?

8. How can the load be lowered to the deck if suspended and there is no hydraulic pressure?

TASK BO-02-03-TYPE: Boom/Crane System and Components

1. What is the function of the A-frame actuators on the 49' BUSL?

2. What is the function of the quick disconnect fittings at each A-frame and cross deck winch?

3. What is the function of the chain stopper, chain guard and release assembly on the transom of the BUSL?

4. Where is the buoy handling system hydraulic fluid heat exchanger located?

5. How many disposable oil filters are located in the BUSL buoy handling hydraulic system?

6. If pressure in the buoy handling system drops below _____ PSI or the temperature of the fluid exceeds _____ °F. an alarm will sound in the pilothouse.
7. What drives the hydraulic pump for buoy operation on the 49' BUSL?

TASK BO-02-04-TYPE: Boom/Crane Operation

1. The 49' BUSL can relieve floating aids up to and including a _____ by _____ foot lighted buoy, up to a _____ class lighted buoy, a sinker up to _____ pounds and up to a _____-inch chain can be handled.
2. The _____ must be in operation to perform power on pre-start check to the buoy handling equipment.
3. List four topside components associated with buoy handling equipment that should be inspected for hydraulic leaks when the system is static and operating.

   a.

   b.

   c.

   d.
4. The _____ _____ _____ will provide hand signals to the boom/crane operator during all buoy handling operations.
5. Before bringing a lighted buoy on deck attach a _____ and _____ to prevent the buoy from swinging.

Section C. Reading Assignments - Division Three

Introduction

The reading assignment(s) should be read prior to beginning instruction of each task.

In this section

This section contains the following reading assignments:

Task Number	Reading Assignment	See Page
BDS-03-01-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series) • *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1 • *Naval Engineering Manual*, COMDTINST M9000.6 (series)	5-21
BDS-03-02-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series) • *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1 • *Naval Engineering Manual*, COMDTINST M9000.6 (series)	5-22
BDS-03-03-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series) • *Boatswain Mate 3 & 2*, NAVEDTRA10121-G1 • *Naval Engineering Manual*, COMDTINST M9000.6 (series)	5-23
BDS-03-04-TYPE	• *Aids to Navigation Manual - Seamanship,* COMDTINST M16500.21 (series) • *Aids to Navigation Manual - Technical*, COMDTINST M16500.3 (series) • *49' BUSL Boat Operator's Handbook,* COMDINST M16114.22 (series)	5-23

TASK BDS-03-01-TYPE: Buoy Deck Supervisor Safety Fundamentals

1. Why are tag lines required when lifting loads?

2. The deck supervisor must conduct _____ inspection of the buoy handling equipment if use is anticipated.
3. What are the minimum number dead wraps on the drum for the deck winches and A-frame winches on the 49' BUSL?

4. How does the buoy deck supervisor relay commands for buoy lifting and lowering operations to the boom/crane operator/coxswain?

5. What will happen if hydraulic power is lost and a buoy is suspended on the boom/crane?

6. What is the most inherent danger if the whip should part during any buoy handling operation?

7. The buoy deck supervisor should conduct a briefing prior to beginning buoy deck operations. The following topics should be included:

   a.

   b.

   c.

   d.
8. What operating indications will the buoy deck supervisor observe if a buoy is being raised and the mooring in fouled?

TASK BDS-03-02-TYPE: Buoy Deck Supervisor Fundamentals

1. What are the safe working load limits for the cross deck winches and A-frame winches on the assigned buoy boat?

2. What is the size, material, and length of the wire rope installed on the deck winches and A-frame winches on the assigned buoy boat?

3. What is the difference between strands and wire when expressing the size and serviceability of wire rope?

4. What are five physical inspection standards that should be observed when visually inspecting wire rope?
   a.
   b.
   c.
   d.
   e.
5. Daily inspection and _____ of buoy handling equipment fittings is essential to maintain equipment serviceability.
6. If the boom/crane/A-frame is being exercised and the operation is rough or erratic with audible noise in the hydraulic fluid flow, it is most likely an indication of _____ in the _____ _____.
7. Where are the manual release features located on your boat to safely lower a load if hydraulic pressure fails?

8. What is meant by slushing a wire rope?

TASK BDS-03-03-TYPE: Buoy Deck Supervisor Rigging Fundamentals

1. What is the danger of horizontal sling angles during any lifting operation?

2. What is the normal safety factor required when testing slings and where can the last load test date of a sling be located?

3. True or False. It is never a good practice to tow or drag a buoy from the chain stopper.
4. The deck winches on the 49' BUSL have a WLL of _____ pounds each.
5. A sinker of _____ lbs and a chain up to _____inches can be handled by the 49' BUSL.
6. What is meant by the term two-blocking and what must be done if this situation occurs?

7. For buoy handling operations, the line size used for rotten stops is determined by the _____ and _____ of the _____.

TASK BDS-03-04-TYPE: Supervise a Buoy Deck Evolution

1. What action might the BDS recommend the coxswain take if a sinker is mudded or sanded-in?

2. The AtoN boat can relieve up to a _____ class unlighted buoy.
3. What is the function of the A-frame limit switch and where is it located on the 49' BUSL?

4. Do not use _____ _____ to mouse the hooks when lifting or lowering loads.
5. Explain at least four items that should be included in the safety brief prior to buoy deck operations.
   a.
   b.
   c.
   d.
6. The bridle is normally connected to the buoy with _____ _____ shackles.
7. If the throat opening of a hook has been enlarged greater than _____ percent, then it should be replaced.
8. What safety gear must be worn by any buoy deck personnel that is engaged in battery maintenance?

Appendix A. Task Accomplishment Record for Boat Crew Member

NOTE Instructor should remove this section and place it in the trainee's training record.

TRAINEE NAME: _____ RATE: _____

INSTRUCTOR NAME: _____ RATE: _____

POSITION/QUALIFICATION CODE TO BE TRAINED FOR: _____

NOTE Instructors should line through those tasks not applicable to this qualification.

Task	Date Started	Date Completed	Instructor's Initials
BCM-01-01-ANY			
BCM-01-02-ANY			
BCM-01-03-ANY			
BCM-02-01-ANY			
BCM-02-02-ANY			
BCM-02-03-ANY			
BCM-02-04-ANY			
BCM-02-05-ANY			
BCM-02-06-ANY			
BCM-02-07-ANY			
BCM-02-08-ANY			
BCM-02-09-ANY			

Task	Date Started	Date Completed	Instructor's Initials
BCM-02-10-ANY			
BCM-02-11-ANY			
BCM-02-12-ANY			
BCM-02-13-ANY			
BCM-02-14-ANY			
BCM-02-15-TYPE			
BCM-02-16-TYPE			
BCM-02-17-ANY			
BCM-02-18-ANY			
BCM-03-01-ANY			
BCM-03-02-TYPE			
BCM-03-03-TYPE			
BCM-03-04-TYPE			
BCM-03-05-TYPE			
BCM-03-06-ANY			
BCM-03-07-ANY			
BCM-03-08-ANY			
BCM-04-01-ANY			
BCM-04-02-TYPE			
BCM-04-03-TYPE			

Task	Date Started	Date Completed	Instructor's Initials
BCM-04-04-TYPE			
BCM-04-05-ANY			
BCM-04-06-ANY			
BCM-04-07-ANY			
BCM-04-08-ANY			
BCM-04-09-TYPE			
BCM-04-10-TYPE			
BCM-04-11-TYPE			
BCM-04-12-TYPE			
BCM-05-01-ANY			
BCM-05-02-ANY			
BCM-05-03-ANY			
BCM-06-01-ANY			
BCM-06-02-ANY			
BCM-06-03-ANY			
BCM-06-04-ANY			
BCM-06-05-ANY			
BCM-06-06-ANY			
BCM-06-07-ANY			

Task	Date Started	Date Completed	Instructor's Initials
BCM-06-08-ANY			
BCM-06-09-TYPE			
BCM-06-10-TYPE			
BCM-06-11-TYPE			
BCM-06-12-TYPE			
BCM-06-13 TYPE			
BCM-06-14-ANY			
BCM-06-15-ANY			
BCM-07-01-TYPE			
BCM-07-02-TYPE			
BCM-07-03-ANY			
BCM-07-04-TYPE			
BCM-07-05-TYPE			
BCM-07-06-ANY			
BCM-07-07-ANY			
BCM-07-08-TYPE			
BCM-07-09-ANY			
BCM-07-10-TYPE			
BCM-07-11-ANY			

Task	Date Started	Date Completed	Instructor's Initials
BCM-07-12-ANY			
BCM-07-13-TYPE			
BCM-07-14-ANY			
BCM-07-15-TYPE			
BCM-07-16-ANY			
BCM-07-17-ANY			
BCM-07-18-TYPE			
BCM-07-19-TYPE			
BCM-07-20-ANY			
BCM-07-21-TYPE			
BCM-07-22-TYPE			

AtoN Crew Member Qualification Tasks

BDCM-01-01-ANY			
BDCM-01-02-TYPE			
BDCM-01-03-TYPE			
BDCM-01-04-TYPE			
BDCM-01-05-TYPE			
BDCM-01-06-TYPE			
BDCM-01-07-TYPE			
BDCM-01-08-TYPE			

Task	Date Started	Date Completed	Instructor's Initials
BDCM-01-09-TYPE			
BDCM-01-10-TYPE			
BDCM-01-11-TYPE			
BDCM-01-12-TYPE			
BDCM-01-13-TYPE			
BDCM-01-14-TYPE			
BDCM-01-15-TYPE			
BDCM-01-16-TYPE			
BO-02-01-TYPE			
BO-02-02-TYPE			
BO-02-03-TYPE			
BO-02-04-TYPE			
BDS-03-01-TYPE			
BDS-03-02-TYPE			
BDS-03-03-TYPE			
BDS-03-04-TYPE			

Appendix B. List of Acronyms

Introduction This appendix contains a list of the acronyms used throughout the handbook.

In this appendix This appendix contains the following information:

ACRONYM	DEFINITION
ANB	AtoN Boat
ASB	Arctic Survey Boat
ATB	Aviation Training Boat
BDCM	Buoy Deck Crew Member
BDS	Buoy Deck Supervisor
BECCE	Basic Engineering Casualty Control Exercises
BO	Boom/Crane Operator
BU	Buoy Boat
BUSL	Buoy Utility Stern Loading
CB-L	Cutter Boat-Large
CB-M	Cutter Boat-Medium
CB-OTH	Cutter Boat-Over the Horizon
CB-S	Cutter Boat-Small
DGPS	Digital Global Positioning System
DPB	Deployable Pursuit Boat
EBL	Electronic Bearing Line
GPS	Global Positioning System
ICW	Intracoastal Waterway
IMARV	Independent Maritime Response Vessel
LCVP	Landing Craft
LOP	Line of Position
MCB	Motor Cargo Boat
MLB	Motor Lifeboat
MSB	Motor Surf Boat
NSB	Non-Standard Boat
PIW	Person-in-the-Water
PPE	Personal Protective Equipment
PPS	Precise Positioning Service
PWB	Port and Waterways Boat
RB-HS	Response Boat-Homeland Security
RB-M	Response Boat-Medium
RB-S	Response Boat-Small

ACRONYM	DEFINITION
SB	Sailboat
SKF	Skiff
SPC	Special Purpose Craft
SPC (LE)	Law Enforcement Special Purpose Craft
SPS	Standard Positioning Service
SSL	Standard Support Level
SWL	Safe Working Load
TANB	Trailerable AtoN Boat
TD	Time Difference
TPSB	Transportable Port Security Boat
UTB	Utility Boat
UTL	Utility Boat Light
UTM	Utility Boat Medium
VRM	Variable Range Marker
WLL	Working Load Limit

Index

V

W